THE ANNUAL

OF THE

BRITISH SCHOOL AT ATHENS

No. XXX.

SESSIONS 1928–1929, 1929–1930

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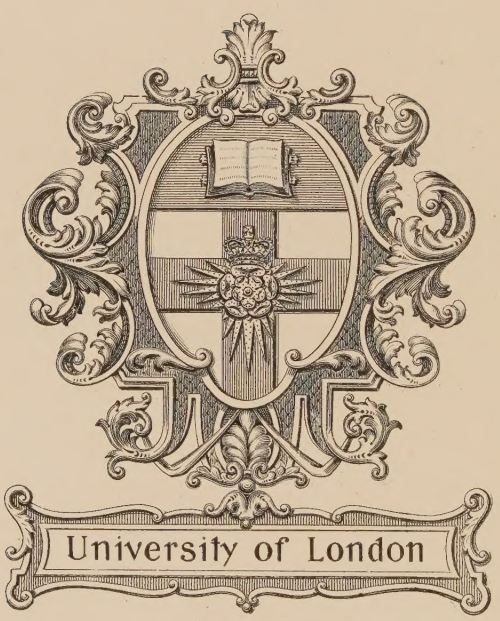

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EXCAVATIONS AT THERMI IN LESBOS.

(Plates I–X.)

List of Abbreviations.

ΔΣ	= Tsoundas, Αἱ προιστορικαὶ ἀκροπόλεις Διμηνίου καὶ Σέσκλου.
Frankfort	= Frankfort, *Studies in the Early Pottery of the Near East II.*
Ilios	= Schliemann, *Ilios.*
S.S.	= Hubert Schmidt, *Schliemann's Sammlung Trojanischer Alterthümer.*
Troja	= Schliemann, *Troja.*
Tʀoja und Ilion	= Dörpfeld, *Troja und Ilion.*

Note on Plans, etc.

In the plan on Fig. 1, walls which belong to Town I are dotted; walls which belong to Town II hatched. Walls both hatched and dotted either survive from Town I to Town II or (in the case of the houses in Γ) may belong to either. The same arrangement is used in Fig. 3. The system of lettering and numbering is as follows: letters refer to the area; Roman numbers to the town; Arabic numbers to the house. If two adjacent rooms obviously belong to the same house, I have given them the same Arabic number. Stone for stone plans were made of all five towns and will be published in the final report. The points of the compass shew magnetic north for 1930, not true north. Depths are given in metres above sea-level. Scales on plates and figures representing objects are in centimetres unless otherwise indicated.

Introduction.

General Remarks.

The prehistoric site of Thermi lies 10 km. north of Mytilene, nearly 2 km. east of the modern village, and about half a kilometre south-east of the hot springs which give the district its name. Before excavation it appeared as a low mound on the coast, part of which had been cut away by the sea. The cliff face rises to 6·20 m. at the highest part of the mound: the relation of virgin soil to the settlement earth is shewn in the sections,

Pl. II. Scattered stones, obviously once used for building, extend for 30 m. out to sea : it seems probable that at least 15–20 m. of the city have been lost on this side owing to the gradual erosion of the coast. The extent of the surviving parts can be roughly estimated from the map, Pl. I, though not all the boundaries have yet been discovered.

Excavations were begun in 1929, continued in 1930, and are still far from completion. Both years' work is reported in the following paper, which must, however, be regarded as a preliminary and incomplete publication, subject to correction and revision.

General Conclusions.

It is convenient at this stage to anticipate our conclusions, the grounds for which will be given under various headings.

The site on the coast seems to have been inhabited continuously from the early bronze age to a period contemporary with Troy II*a* : say from 3400 to 2000 B.C. or later. Architecturally, we can distinguish five main superposed settlements; ceramically, three periods; towns and periods are related roughly as follows :—

First Town Second Town	First Ceramic Period (related to Troy I).
Third Town	Second Ceramic Period.[1]
Fourth Town Fifth Town	Third Ceramic Period (related to Troy II).

The plans in Figs. 1 and 3, if superposed, would shew that the first town extends further northward and westward than the fifth : various points suggest that it did not reach so far south, but this requires investigation. In any case, it appears considerably larger.

The area round about the south-west test pits, hereafter referred to as the south-west area, has produced an alien type of pottery including elements suggestive of Troy VI, which will be discussed in next year's report. This pottery has also been found on the late street which crosses the end of the area I and above the semi-apsidal houses in I next the street (see plan). When using the terms ' site ' or ' settlement,' the south-west area is excluded.

[1] Actually, the second period began a little before the end of the second town. In the report for 1929 in *J.H.S.* xlix. p. 223, the periods, instead of being called first, second and third, are called first, intermediate and second.

Method of Excavation.

The ideal way of excavating such a site would be to uncover the whole of each of the superposed settlements one by one. This was rendered impossible on the northern half by the proprietor, who made the most of the privileges recently granted to owners of ancient sites, and would not allow the excavated ground to remain uncovered from year to year. It was, therefore, necessary to mark off certain areas which could be cleared to virgin soil within the season, and then refilled.

A glance at the map will shew that, in the uppermost two Towns, the houses were grouped into blocks, divided from each other by streets. The most practical course was to let our own divisions (lettered A–I, see Figs. 1–3) coincide more or less with the blocks in question. Since the lower towns are differently oriented, these divisions run diagonally across house groups in Towns I, II and III; in consequence, plans of some of the low-level houses are still incomplete, and must remain so until next season. Equally incomplete is the area of Town V between Z and I.

The proprietors of the southern half of the site have given us every facility: the uppermost town, with the exception of a small part beyond the modern dyke on the extreme south, has been cleared and remains open, ready for work to recommence. It is proposed to excavate most of the site to virgin soil, but to leave unexcavated samples representative of all five towns in case anyone should, at some future date, wish to check our conclusions.

Stratification: Periods of Occupation.

The stratification is best explained by the sections on Pl. II. The buildings are the most solid guide to the different stages of occupation, in spite of the fact that their lowest courses are laid irregularly and their topmost surviving courses irregularly preserved: in spite, too, of the way in which houses were reconstructed and re-used. Floor levels, constantly renewed, are too numerous to mark any main division of period except in rare instances. The pottery, gradually developing from the red and black wares of the first period to the brown and grey wares of the second, supplements what we learn from the architecture.

Where the ground slopes downward to the north-west, the walls of the buildings run downhill with it. This is particularly noticeable in

Γ. On the outlying parts of Γ the pottery and other antiquities were, as one would expect, slightly contaminated.

Where the ground slopes downward to the south, we are at present unable to say in what relation the buildings in E stood to those in Θ, owing to the fact that the end walls of E have been destroyed.[1] In I, it looks as if the buildings followed the slope as in Γ. Moreover, additional proof that the buildings just beneath the surface in H belong to the same period as those in Z is given by the almost identical style of construction. and the buildings in the top layer of A, B, Δ, E, are obviously contemporary with those in the top layer of Z. Still more conclusive, the pottery from the surface half-metre of Θ and H is of the same kind as that from the surface half-metre of A–Z.

Staff: Acknowledgments.

The workmen numbered from 25–30 in 1929; in 1930 from 60 to 80. Of the latter, however, only one-fifth were pickmen. The economic situation was complicated in 1930 by the unemployment of the olive workers: as practically everyone in this part of the island lives by tending olives, the villagers were literally starving. Contributions to enable us to employ extra men were received from various sources, in particular from members of the Anglo-Hellenic League. We are, moreover, deeply indebted to the Worts fund for its generous and welcome support. To all these our warmest thanks are due, while the men and their families have begged me to convey theirs.

I should like especially to thank Professor Desch for the report on the metal objects, which he has allowed me to publish on p. 39. Without his kindness in undertaking the analyses, the results of the excavation would have lost much of their value.

I am, moreover, under a great obligation to Professor Ktenas and Dr. Kokkoros of the University of Athens for the identification of the material of the stone implements, and to Professor Ktenas for the note on imports which appears on p. 46.

In 1929 the party consisted of myself, assisted by Mr. Hutchinson and Miss Haspels, of the University of Amsterdam; also, for a shorter time, by Mr. Tait, Miss Burne and Miss Horner. In 1930, Miss Nine Six was

[1] No section of this part of the area is worth giving till it has been cleared to virgin soil.

with me throughout the excavation; Mr. Hutchinson, Miss Haspels, Mr. Burton Brown, Mr. Cullen and Mr. Wason for shorter periods.

Mr. Burton Brown was in charge of area Γ, Miss Haspels of area E, and I am indebted to them for most of the photographs of the site. Mr. Hutchinson was in charge of area Z and made a special study of the pottery. Miss Six looked after and indexed the finds. Mr. Wason conducted part of the excavation of Θ. The plans are by myself, with the exception of Nos. 1–4 of the area Γ which are by Mr. Burton Brown.

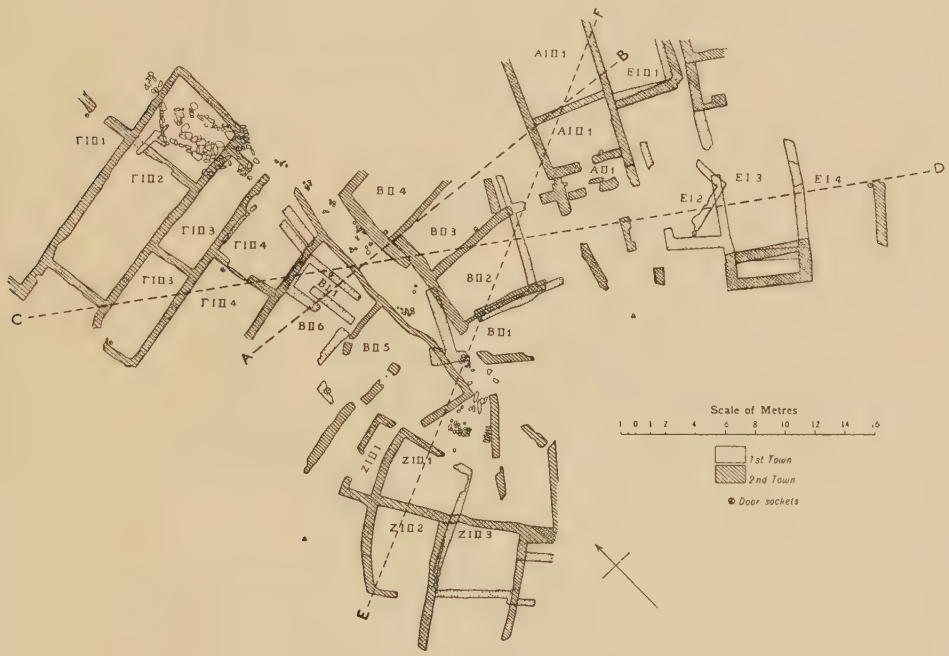


FIG. 1.—FIRST AND SECOND TOWNS: AREAS EXCAVATED 1929–30.

We owe much to the kindness and capability of Mr. Paraskevaïdes, Epimelete of Antiquities, and Mr. Patterson, H.B.M. Consul for Mytilene: also to the facilities given to us by the proprietors of the southern half of the site, Messrs. Basileiou and Bouioukas, of Mytilene.

THE BUILDINGS.

First and Second Towns (Fig. 1).—The chief building material appears to have been stone, of three kinds: (1) schist, used in long slabs; (2) small chunks of inferior local marble; (3) a volcanic stone, very light, soft and

decomposed.[1] The softness made it easy to dress, and in Towns I and II it was often dressed carefully and used in large blocks. It is still quarried in two places, one a few minutes' walk south of the site, the other inland behind the new school. Schist occurs everywhere on the two hills that run parallel with the coast.

Typical first and second town walls are illustrated in plates and text. Notice in Fig. 2 the juxtaposition of large and small blocks (from west wall of A. I. 1); in Pl. IV, 3 the large size of the stones (from A. I. 1, south wall of small ante-room, adjoining E. I. 1 and 2); and in Pl. IV, 4 (from wall between A. I. 1, and E. I. 2) the herring-bone arrangement. The latter occurs occasionally in our low settlements, and

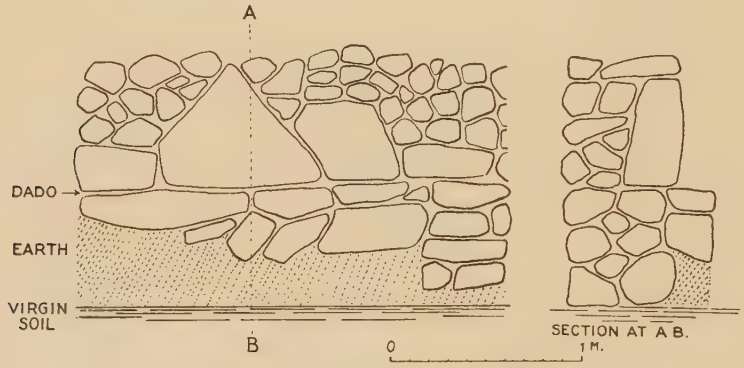


FIG. 2.—DETAIL OF WALLS.

is characteristic of the first city of Troy.[2] Earth was rammed in the interstices of the stones: occasionally a wall would be found with a core of earth only between stone facings.

It is not yet certain whether mud-brick[3] was used in the first and second cities: in the third to fifth it was employed, though more sparingly than at Troy. Some of the stone walls of the first and second cities are preserved to a considerable height, *e.g.* 1·65 m. This suggests that stone was used throughout, which is natural, since it is easy to procure and to work.

[1] See Philippson, *Reisen und Forschungen I.* geological map.

[2] *Troja und Ilion*, p. 47, Fig. 9. It is also found in the new Early Helladic settlement at Hagios Kosmas in Attica: I am indebted to Dr. Mylonas for this information.

[3] Compare *Troja und Ilion*, i. p. 36, where it is associated with Troy II (*i.e.* our Towns IV, V) but not with Troy I.

Roofing is almost always a matter on which one cannot safely theorise. In the long, narrow rooms which occur at all periods, we looked for any traces of post holes or pillar supports. The only post hole found was in a gap in a wall, therefore irrelevant to the present question (Z, north corner) : a possible pillar support in the form of a shallow round block was discovered at a level of 3·01 m.,[1] not *in situ*, in the east corner of A. 1. The procuring of timber suitable for roofing must have been comparatively easy, if the island was as well provided with trees in the early bronze age as it was 100 years ago : oak and cedar are still to be found. In any case, it seems certain that the roofs would have been flat, as at Troy.[2]

Door sockets, more or less square, mark the position of many of the doors. The map will shew that these sockets are found both incorporated with the wall (B. I. 1) and outside it (Γ. I. 4). Sometimes the threshold was paved by a long piece of schist (Γ. I. 4). It was not uncommon to find door sockets, reversed, used as ordinary building material. The doors appear to have been in the narrow end of the buildings.[3]

Floors were made of sand and small pebbles collected from the seashore. These were usually sprinkled thinly and have frequently been altogether swept away, but here and there a thick patch survives. All floors were constantly raised and renewed.

Both first and second towns were oriented, roughly, north and south. The remains which can be attributed to the first town are few, since most walls were pulled down when the second town was erected. Those that still stand are, however, often distinctive owing to the superior quality of their construction, for they are composed of larger and more uniform stones than their successors.

With regard to particular buildings : most houses, as has already been pointed out, are long and narrow, but a broader type of room, like that found in other Greek islands, does occur in the low levels, *e.g.* in Z. It does not, apparently, exist in the later periods. The end of house 3 in Γ. I. is curved slightly, but not enough, in view of the interrupted

[1] Above sea-level. See sections.

[2] *Troja und Ilion*, pp. 40, 41.

[3] The threshold in the side of the ante-room of A. I. 1, a later modification, is exceptional. Where the plans shew gaps in the long side walls of a room, it is due to the destruction of the wall itself and not to the presence of a door.

wall, for one to be certain whether or not it is a predecessor of the semi-apsidal houses of Towns IV and V. It is also a question whether rooms like Γ. I. 3 were part of the house Γ. I. 2 : usually each oblong was, as far as we can judge, a distinct unit unconnected by any door.[1] In contrast to the arrangement in Crete, Phylakopi and neolithic Thessaly,[2] houses at Thermi tend to have the large living room behind one or more smaller rooms.

The street which runs through B and Γ does not belong to the first city, but to its successor. Where the street runs out towards the sea in Γ, passing above the destroyed walls of house Γ. I. 2, its construction can be made out with gratifying distinctness : the paving is of pebbles and cobbles and a few large blocks; a border of slightly dressed stones emphasises the bend (Pl. V, 4).

Within the rooms are certain non-structural remains that deserve attention. In many corners, we found shelves, seats or small platforms, which were made of stones and cobbles carefully laid and sometimes edged by longer stones. The examples in Towns I and II are naturally less well preserved than those in Towns IV and V.

Isolated platforms, composed of slabs of schist supported on parallel rows of stones (see Pl. V, 5) occurred in A and Γ; the parallel supporting stones, despoiled of their covering slabs, in E and Z. The purpose of these platforms is uncertain, since no traces of ash or bones and no vases or other objects were associated with them.

A platform in Z, differently constructed from those described above, may have some religious significance. It was oblong in shape, and composed of two courses of medium-sized blocks, with a patch of earth in the middle. Here stood a jar, containing nothing but soil : the top had been broken off in ancient times, but the lower part was perfectly preserved.

Many rooms in Town I were store-rooms : this is proved by the presence of long rows of holes for pithoi which can be detected in virgin soil : as several holes contained the lower halves of actual pithoi, the purpose of the rest is obvious (Pl. III, 5, from Γ. I. 4). No doubt the later towns were similarly equipped.

Third Town.—This phase of the Thermi settlement is so fragmentary and disjointed that one hesitates whether to call it a town. There is,

[1] See note, p. 7. [2] Fimmen, *Kretisch-Mykenische Kultur*, p. 45.

however, no doubt that certain walls representing more than one stage of occupation can be connected neither with Town II nor with the town which I have called IV. Moreover, to the same period belong two interesting phenomena : the clay-lined pits described below and the burnt clay areas in Z.

We will begin with the walls. These, as has been indicated, are for the most part too ruined to form house plans. The most arresting wall is in B, a wide structure composed of large stones almost like a causeway. The orientation, in all areas save E, is the same as that of the lower towns. In E, however, there is a notable development : a group of houses was built running diagonally to those of Towns I and II ; and the outlines of these houses were kept, with small alterations, for all subsequent buildings in this district. In particular, the lines of the walls running N.-W. to S.-E. were retained, though later walls were often built slightly to one side rather than on top. In B, masses of fallen stones, evidently the debris of walls, cover most of the ground at a level of *ca.* 4·75 m., and form a foundation for later buildings. Amongst this debris below the east wall of B. III. were found fragments of human bones and of two skulls inserted between and possibly crushed by the stones.

The Clay Pits.—There are twenty-one of these altogether : sixteen of them lie between levels 4·65 and 4·00 m.[1] : two are at about 4·80 m. : three are below 4 m. Of these, one in E, with its rim at a depth of 3·67 m., may belong to Town II. That the pits should, with one possible exception, be confined to a particular stratum complicates our theories as to their purpose.

They are either round or oval, sometimes narrowing towards the base. The material is stiff, blue-green clay with walls from 2·5 to 4 cm. thick, depth varying from ·74 m. to ·09 m.,[2] diameter of top varying from 1·43 m. to ·51 m. A number of them are protected by a surrounding wall ; some lie in areas paved with fallen stones ; others are isolated. Their contents include potsherds ; often ash ; occasionally stones ; in two cases, layers of pebbles ; rarely, animal bones. Nor are objects of value wholly absent ; one pit produced a figurine, another a lead ring. Slag, a fragment of rock-crystal, and a net-weight are less surprising.

[1] The levels given are those of the rims.

[2] The shallow *bothroi*, however, appeared to have been cut short in ancient times by later floors.

Two interesting but somewhat exceptional pits deserve mention, since the evidence provided by the one is contradicted by the other.

The first was in B: it was of the type surrounded by a wall, but only the floor of the actual pit was preserved. The clay was covered in part with pebbles, and in one place the pebbles ran under the wall (of which the foundations, as usual, did not descend as far as the floor of the pit). This suggests that the pebbles were an outlet for straining water.

The other pit was in Γ. It was one of the largest: width 1 m., length ·90 m., depth ·53 m. In the lower half was a deposit, about ·06 m. thick, of red earth, burnt but powdery. Below this stood a bowl with legs and rim chipped, apparently in antiquity, and a deer's antler laid across it. Under the bowl was the lead ring mentioned above. This rested on a pebble floor which lined the clay (see Pl. VI).

The pits at Thermi are obviously similar to the *bothroi* in the Early Helladic stratum at Orchomenos,[1] though there the clay is yellow and ashes play a larger part than at Thermi. Other *bothroi* have been found in an Early Helladic context at Zigouriés, Korákou, Gonia and Eutresis.[2] Now the pottery associated with the pits at Thermi is of the second style, scarcely beginning to shew those features which the pottery of our third period has in common with Early Helladic wares. One is tempted to infer that Thermi III was a little earlier than, rather than contemporary with, the phases of Orchomenos, Eutresis and the Peloponnesian sites which produced *bothroi*.

Unfortunately, the function of these *bothroi* remains obscure. Those at Orchomenos were conjectured to be for the preservation of ashes in connection with some religious belief;[3] or alternatively as a kind of oven for the slow cooking of food buried in ashes.[4] Neither explanation entirely fits the examples at Thermi, where ashes are not invariably found and where other types of oven prevail: the occasional absence of ashes may, however, be due to cleaning or accident. If the pits were rubbish-pits, one would expect them to contain more animal bones.

[1] Bulle, *Orchomenos*, i. pp. 25 ff.

[2] Blegen, *Zigouriés*, pp. 26, 28, 76, 77, 215; *Korákou*, p. 75; Goldman, *Eutresis*, pp. 21, 22.

[3] Bulle, *Orchomenos*, i. pp. 30 ff.; Wace and Thompson, *Prehistoric Thessaly*, p. 195.

[4] Wace and Thompson, *loc. cit.*; Heurtley, *B.S.A.* xxix. pp. 173–4; Mylonas, *Νεολιθικὴ Ἐποχή*, pp. 161–4.

During the first campaign at Thermi, they were regarded as latrines, owing to the peculiar construction of the pit in B described above: in this case, the ash where present would have acted as an absorbent or disinfectant. But if so, the appearance of the bowl, antler and ring in the pit in Γ is inappropriate: moreover, why should the Thermiotes when they had discovered a tolerable system of sanitation, abandon it in the later stage of Town IV?

The *burnt clay areas* are even more inexplicable. At first we thought they were hearths, but they proved to be too extensive, for they covered large portions of the west, north and north-east parts of Z. Occasionally a true hearth was found in the centre of one of these areas, but these were too small to have produced red patches so wide and so hard. They could not have been burnt mud-brick houses, for there were no remains of bricks or wooden beams, and their surface was too flat and uniform. A superficial parallel is afforded by the *ploschchadki* in the black earth region. It should be noted that burnt clay areas have been found so far in Z only, above the 3·49 m. floor level: they appear in the section on Pl. II.

Fourth Town (Fig. 3).—The walls of Town III appear to have been pulled down intentionally to make a foundation for Town IV: no abrupt change of culture exists to suggest the incursion of a new and hostile people. Nevertheless, Town IV was differently oriented from Towns I–III, except in E, where its direction had been anticipated, and in A, where the west wall had been raised by every successive generation of builders since the first period (see Section A–B).

We now have a handsome block of oblong parallel houses running across B and Z. Divided from the B Z block by a street but facing the same way are the meaner houses of E. Here, as has already been indicated, the long walls kept the lines of their predecessors, while numerous cross walls, frequently destroyed and replaced, produced rooms that were both small and short-lived. The Γ area is only occupied by the ends of the long houses of the B group. In Z, house No. 2 foreshadows the apsidal houses of the fifth town.

The 'furnishings' of this period—little platforms, square or circular partitions in corners—are well preserved. Sometimes but not always the partitions contain hearths. One of the most interesting constructions is in the third room of house B. IV. 2, where two narrow walls running out

from the main walls of the room produce an oblong enclosure which protected the trough and basin described on p. 15. In the house B. IV. 1 is another type of enclosure, formed of narrow slabs of dressed stone upended: within the enclosure was a pithos. No traces of the platforms of slabs laid on parallel rows of stone, so characteristic of Towns I and II, have yet been found in Towns IV and V.

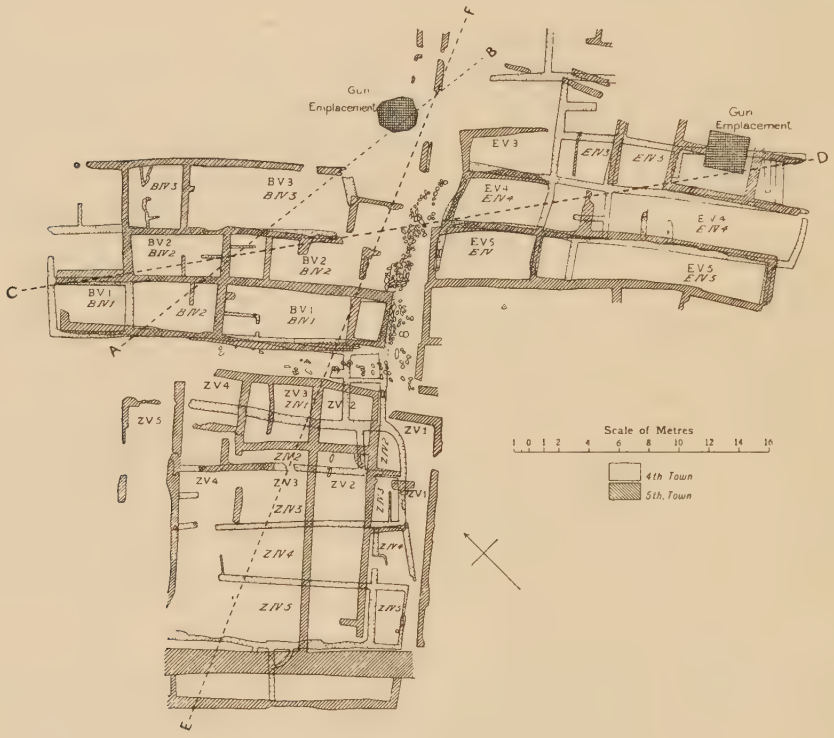


FIG. 3.—FOURTH AND FIFTH TOWNS: AREAS EXCAVATED 1929–30.

In A and Δ at a level of *ca.* 5 m. was a very distinct and extensive layer of powdery red earth, burnt and mixed with charred wood: here, no doubt, were brick and timber houses. This theory is supported by the fact that in a certain part of A traces of wooden cross-beams could be detected at regular intervals (1·20 m.) from each other, similar to those in Troy II.[1]

Fifth Town.—This town has suffered less from the modern plough

[1] *Troja und Ilion*, pp. 90, 91, Fig. 29.

than Towns I–IV had suffered from the builders of the later settlements; but modern warfare has made havoc of the walls in A round the smaller gun-emplacement, and of the floors in E round the larger.

Many of the houses of Town V are built on the foundations of earlier houses: this is particularly clear in B and E, when the long walls were heightened, fresh rooms built, and fresh floors laid down. In Z, however, a further development took place: an entirely new block of houses was built at right angles to the old, and divided from B by a street. These houses have particularly fine walls,[1] and one of them, Z. V. 2, is notable for the doorway leading from its anteroom to its living room: two enormous blocks of schist form the threshold, while inside, to right and left, are curved walls acting as screens. Notice particularly the 'flue' behind the hearth in the narrow passage-way of Z. V. 3, 4,[2] and the pithos-hearth with the burnt matter raked out of it, in Z. V. 5 (Pl. IV, 6).

The most interesting region, however, lies to the south. Here we have a group of comparatively small houses (H) running fan-wise towards the city wall: concerning these there is considerable difficulty in deciding which rooms were independent units and which were not. Here too is the handsome house in area Θ, conspicuous by reason of its great length and its overheated kitchen (Pl. III, 6) with two, possibly three, fireplaces dangerously near the door.[3] Between this house and the next is a narrow passage with an enclosure at one end. Then comes a semi-apsidal building which appears on the plan to have two boundary walls on the north side; the inner one, however, is at a lower level, and will probably prove to be of an earlier period. The remainder of area Θ is occupied by small oblong spaces, some of which may be houses while others are passages or 'yards.' The buildings in I, also well equipped with hearths, are distinguished by the curious apsidal annexe on the south-east, the beautiful pithos[4] next the hearth marked 5·73 m. (see Pl. V, 2) and the circular platform beneath the hearth marked 5·36 m. Schist was used almost exclusively for making the outer wall of the annexe and beyond,

[1] The walls of houses 3 and 4 are, unfortunately, much broken.

[2] See Plan, Pl. I. Another 'flue' was found in the north-west room of B. V. 1. It is uncertain whether Z. V. 3 and 4 were separate houses: they are numbered separately for convenience.

[3] One of the hearths is marked with its level 5 m.: the other two adjoin it. The door socket can be distinguished on the plan.

[4] Mr. Forsdyke suggests that the pithos was for hot water, which could be produced by dropping in stones heated from the neighbouring hearth.

about 30 cm. below the present top of the wall, is a line of stones emphasising the curve (see Pl. III, 3) : The inner wall is composed of volcanic pumice-like material so decomposed that the stones have become welded together.

Round the fifth town ran what appears to have been a wall. Only the foundations remain, and these are distinctive : outside are slabs of schist, inside various irregular blocks. Between I and H, an arm of the wall turned inwards, no doubt protecting a gate : the cross wall running at right angles to the arm must have been a narrow inner gate probably supplemented by a main outer gate. Any trace of this hypothetical main gate has, however, been destroyed, together with a patch of the town wall, by a street of cobbles and fragments of bricks or tiles which encroaches on the houses of I. Above this street and among the stones was found pottery of a later date than any wares belonging to the settlement; this, together with the pottery from the outlying test pits, will be discussed in next year's report. W. Lamb.

Hearths.

The normal type of *hearth* was constructed as follows : On the pebble floor of the room was placed a circle or ellipse of fairly large stones. The interstices of the stones were filled up with more pebbles to make a level surface. On this was laid a floor of sherds, usually set with great care (see Pl. III, 6, representing a hearth in Θ). Above this was another layer of pebbles and a final layer of burnt earth to form the floor of the actual hearth. One or more of these strata might be omitted or reduplicated, but exceptions to the rule that a layer of pebbles intervenes between each stratum of sherds or stones were rare in 1929–30.

An ash dump was frequently found within two or three metres of each hearth and often adjoining it (see Pl. III, 6).

Besides the simple hearths there were in our settlement a few *ovens* of a more complicated pattern. Their base was built up in the same way as the ordinary hearth, but they had a final floor of earth baked almost as hard as a pithos and were, apparently, roofed with a low beehive structure of brick or baked earth.

Two or three shew traces of having been heated by flues running under the floor of the oven. As a rule, however, the fire seems to have been lighted inside until the oven was red hot; the fire would then be

raked out, the food inserted, and the door closed. This was certainly the method used for the hearth in Pl. IV, 5, from the third town, described below (pp. 16, 17).

There remain to be considered two structures in the house B. IV. 2, north-west room. Both of them superficially resemble low beehive ovens but no ashes were found near them. The lower was perhaps a simple *apotheke* but the upper was rather more interesting. The burnt clay wall was of double thickness; on the north-east side, divided from it by a line of stones, was a narrow trough; on the north and east sides was a quantity of greenish clay which appeared to be the ordinary earth impregnated with some organic matter. It is, therefore, conceivable that the narrow trough was used in the manner still employed in Iraq for treading olives. Pl. V, 3 shews the basin and the stone parapet which protected the whole erection: the section A–B on Pl. II (near the left-hand corner) shews the basin resting on its bed of pebbles, but not the layer of sherds which actually lay between pebbles and basin.

Less common, and confined, apparently to the upper levels, are *pithos-hearths* or ovens made from a coarse pot outside which the fire was kindled.

The following account includes a description of one typical simple hearth, five different ovens and two pithos-hearths. They are, of course, only a small proportion of those found and examined.

Simple Hearth.

In Z. IV. 2, at 5·15 m. Measurements: 1·17 m. from north-west to south-east, 0·84 m. from north-east to south-west. The floor was of red earth (·10 m.): next came pebbles (·03 m.); next, red earth again (·04 m.); then more pebbles (·05 m.); lastly, a stone foundation (*ca.* ·20 m.).

Ovens.

1. In Z. V. 5, at 5·66 m. A small beehive oven which had a wide opening at one side. The edges of this opening were carefully rounded off: the top of the oven was probably closed. In front was a long trail of reddish earth, probably the result of burnt matter being frequently raked out. Inside was a stone, arranged horizontally like a

bar, which would support whatever was being cooked and allow the heat to reach all sides of it (Pl. IV, 6).

2. In Z. V. 2, ante-room, at 6·00 m. Beehive oven. This is the only beehive oven of which the dome was intact. Nine cm. above the floor was a shelf formed by the large sherd of a pithos. West of the oven stretched a baked clay floor on which the fire may have been made and the red-hot embers from it shovelled in to the lower part of the oven. The method of baking is of course only conjectural, but the structure was well preserved and provided a useful guide for the restoration of other ovens. Measurements: length of dome, ·65 × ·64 m. Ht. of dome outside, ·295 to ·32 m. Ht. of dome inside, ·28 to ·30 m. Ht. from shelf to floor, ·09 m. Length of exterior platform, 1·25 × ·70 m. Beneath the floor of the oven were first pebbles, then sherds, then pebbles, then a stone base; the whole ·38 to ·40 m. high (Pl. IV, 2).

3. In B. IV. 3, north-west room. The oven was presumably roofed with a beehive dome of burnt clay, but the roof had perished. The heating seems to have been from beneath the oven floor, for here was an open space filled in front with white ash and at the back with a mixture of ash, wood-charcoal and burnt earth.

The whole structure measured 1·30 m. from east to west, 1·10 m. from north to south. The layers were as follows:—

baked clay floor,	·01 m.
sherds,	·01 m.
pebbles,	·04 m.
stones,	·08 m.

northern part: ash and burnt earth ·03 m. on red brick earth ·025 m.	southern part: red brick earth ·055 m.

4. In the third settlement B, southern corner. This was a beehive oven with a hole in the roof: the flue on one side appears in Fig. 4. The hole in the roof was probably part of the original design, since the flue was too small to have been used as a door: a flat stone may have closed the oven when the food was actually baking. The flue was shut off when we found it by sherds just as were the flues of the neolithic kiln discovered by Dr. Mylonas at Olynthus.[1] Large stones served as but-

[1] Mylonas, *Olynthus*, i. p. 16.

tresses and in part as a supporting course for the dome. Beneath the baked clay floor of the oven was a layer of pebbles (Pl. IV, 5; Fig. 4).

Pithos-Hearths.

1. In E. IV. 5 : the top of the pithos was at 5·33 m., the base of the hearth at 5·17 m. To a hearth of the simple type was added a coarse pot laid on its side. This pot was partly embedded in the red burnt earth which formed the top layer of the hearth. The fire would be lit on the hearth and the pithos closed up while cooking was in progress (Pl. IV, 1).

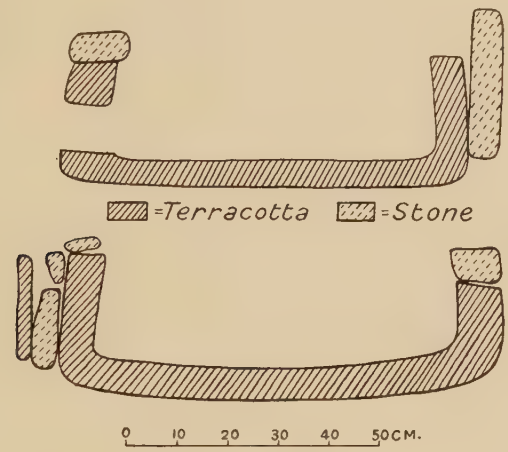


FIG. 4.—SECTION OF BEEHIVE OVEN.

2. In B. V. 1, south-east room at 5·64 m. This differed from the previous example (*a*) in having the pithos flanked by walls of burnt mud-brick with stones to strengthen them, (*b*) in having a flue or outlet at the back of the pithos : this outlet was covered with ashes when we found it.

R. W. HUTCHINSON.

THE POTTERY.

The Early Bronze Age settlement of Thermi was a western extension of the Troadic culture best known to us by its very cosmopolitan metropolis at Troy, but more accurately represented by other sites such as Yortan in Mysia, Boz Ëyuk in Phrygia, Senirdje in Pisidia and the Toumba of Protesilaos on the Dardanelles. The exact limits of this culture are uncertain, but it appears to have comprised all Asia Minor

west of the River Halys and the Taurus Mountains. Among the islands, Lemnos has produced evidence of belonging to the group,[1] and we should expect the same from Imbros, Chios and Tenedos. Euboea, Rhodes and the Sporades as a whole seem to be under Cycladic influence, but in Euboea a distinct Trojan element, though of somewhat later date, has been discovered in certain tombs at Manika.[2]

North of the Dardanelles, we have a Troadic settlement at the Toumba of Protesilaos, but none, so far, in Thrace proper.[3]

There must, however, have been some form of extension into Macedonia to account for the Anatolian character of the Early Bronze Age culture there, which appears to have been the result of a fusion between Troadic and local neolithic elements.[4]

The pottery from Thermi may be divided into three ceramic periods (see p. 2). That from the settlement (as opposed to the south-west area and the south-west street: see p. 2) shews a continuous development. In other words, forerunners of any fabric are liable to appear in the stratum below that with which it is associated and stragglers in the stratum above. Likewise, a few examples of shapes typical of later periods occur before they were universally adopted.

The pottery from the *First Ceramic Period* consists of three principal classes: (i) a fine black ware, made of well-mixed clay, highly polished, but soft and brittle; (ii) a moderately fine, well-fired red ware, sometimes slightly polished, merging into (iii), a coarse household ware, more or less red, varying greatly, but always containing a large quantity of grit and small stones as *dégraissants*. All the vases were handmade, with the exception, probably, of the wide bowls with incurved rims which we believe to have been made in moulds (as was also suggested to us by the local potter, Spiro Tsokalas). The presence of the well-baked red fabric in the lowest stratum disproves the suggestion that the black wares of the first city of Troy were due merely to insufficient firing, and proves that they were caused by a deliberate carbonisation, whether produced by smoking, by the application of wet leaves or by the addition of some

[1] Vases in the museum of Mytilene: unpublished.

[2] Of the tombs dug by Papavasileiou at Manika, groups I, II, IV, V were Cycladic, but III was definitely Troadic: this does not imply an invasion from the actual city of Troy. Papavasileiou, Περὶ τῶν ἐν Εὐβοίᾳ ἀρχαίων τάφων.

[3] Sveti Kyrillovo may shew Troadic influence, but is probably Thracian.

[4] See Heurtley in *B.S.A.* xxix. p. 180.

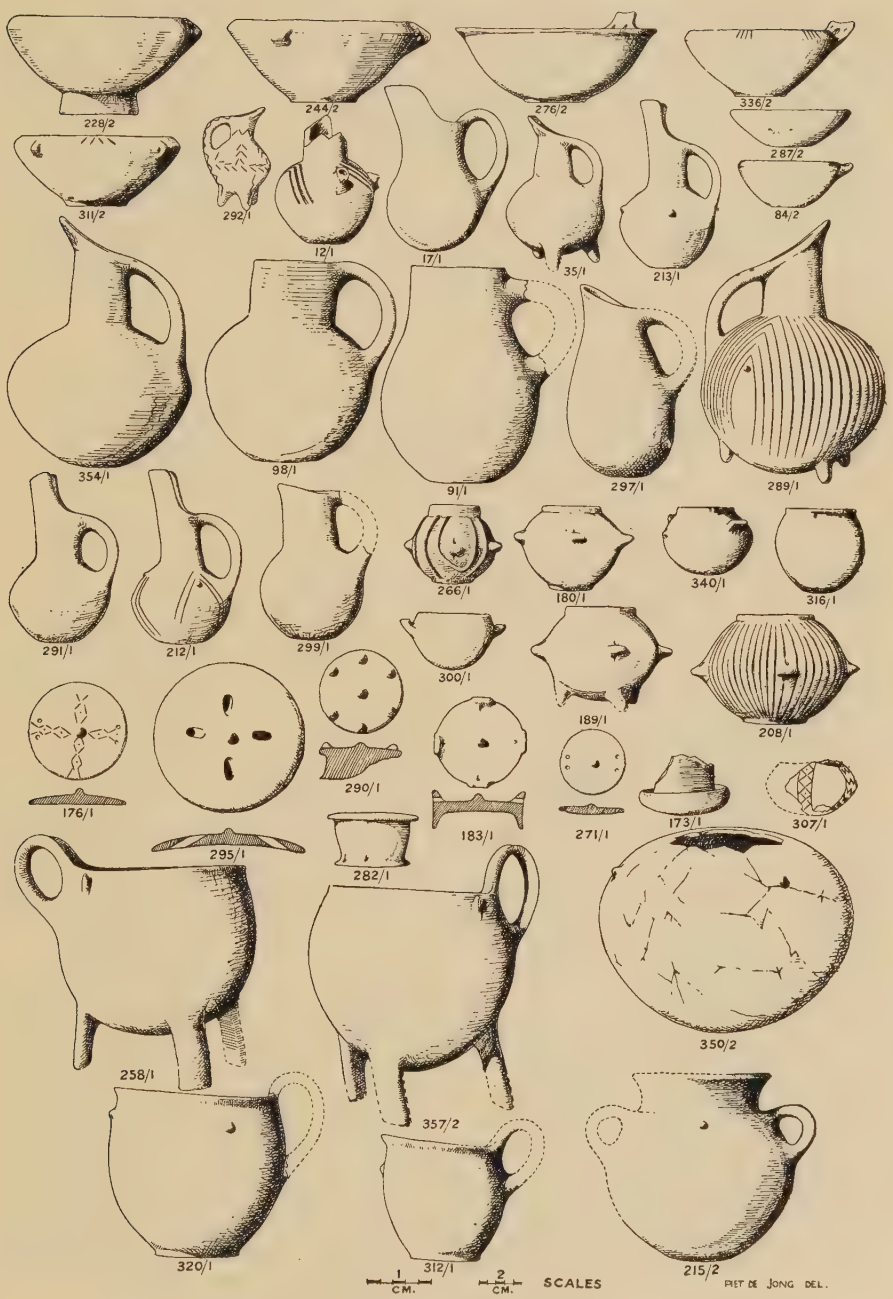


FIG. 5.—VASES: FIRST PERIOD.

carbonaceous material to the actual clay.[1] Fig. 5 illustrates the chief shapes. Bowls with a single pierced handle like No. 276 have, so far, only been found below 3 m. and seem to be a product of the first city, not, like the rest, of the first and second cities: they were soon replaced by a more elegant type, No. 336. The coarse red wares are represented chiefly by mugs, tripod cooking-pots [2] and bowls with uncurved rims, also by many of the miniature vases. In a separate category we must place the enormous pithoi with pointed bases and various kinds of rim, which were used for storage, and of which the production requires a high degree of skill.

Some of the vases, particularly the black jugs and pyxides, were adorned with a ribbed or fluted decoration (Fig. 5, Nos. 289, 208). This form of ornament seems to have been almost absent from Troy,[3] but it is known from other settlements such as Yortan, Pitane and Senirdje.[4] Grooved lines, like those on Pl. VI, No. 12, recall a fragmentary jug, better paralleled in our second period, from the Toumba of Protesilaos.[5] The fine herring-bone patterns, however, like those on No. 1, Pl. VII, Fig. 6, Nos. 18 and 20, and on countless low-level sherds, have no counterpart on any Troadic sites, and suggest a connection with the Cyclades. The bowls with incurved rims were plain except that the rims often bore a ribbed ornament of slanting lines as in Fig. 5, No. 311,[6] or Fig. 6, No. 19.

Incised designs also occur: they are particularly though not exclusively associated with lids, jugs and one or two varieties of the shallow bowl or saucer.[7] Favourite patterns appear in Fig. 5, and Fig. 6, Nos. 7 and 23. Notice particularly the miniature *Schnabelkanne*, No. 292

[1] Frankfort, *Studies in Early Pottery*, i. pp. 9–11; ii. pp. 63–71 with full references to earlier discussions.

[2] Similar cooking pots are known from Boz Ëyuk and from the first city of Troy where Schliemann found two examples just above the virgin soil. Both contained human ashes and in the larger were also the bones of a human embryo (*Ilios*, No. 59, p. 227).

[3] We know only of Inv. 2468, Berlin Museum für Völkerkunde: thirteen fragments with very coarse fluting.

[4] Forsdyke, *B.M. Cat.* I. Part 1, Pl. I.; Ormerod, *B.S.A.* xviii. pp. 83, 89 ff.

[5] Demangel, *Protesilaos*, p. 20, Fig. 20.

[6] Occasionally an incised ornament takes its place: see below.

[7] The first of these corresponds to Schmidt's type *a*, and the designs of hatched triangles or slanting lines were confined to the flat rim. Cf. *S.S.* 124–135, 150–4. The second type had a notched rim resembling somewhat *S.S.* 111 (unique at Troy): the ornament not only covered the rim but was applied both inside and outside in the form of vertical panels of chevrons, or chains of lozenges with a dot in the centre of each.

FIG. 6.—POTTERY: FIRST PERIOD.

in Fig. 5 which recalls the two miniature jugs and the askos from the Thyatira district.[1] Notice too the interesting stand, Pl. VII, No. 288, which, in stratification as in type, barely escapes belonging to the next period and is illustrated with the second period vases. In the fine red wares, there was a fashion for decorating the handles of jugs with patterns like those shewn in Fig. 6, Nos. 10–16.

The first period at Thermi presumably overlaps the first city of Troy but may start earlier, since it closely resembles the lowest stratum of the Toumba of Protesilaos which the excavators considered to be earlier than Troy I. This theory is supported by the fact that the ribbed or fluted ornaments of Thermi I and Protesilaos I were absent from Troy, whereas the vases with designs in white paint and the horned tubular handles, which were confined to the first city of Troy, were at Thermi characteristic of the Second Ceramic period.[2]

Before the end of the first period, and while the second town was still standing, certain modifications begin to foreshadow the period that was to follow.[3] The black gets duller, but at the same time harder, and a number of vases display a heavy mottled red-grey-black fabric. This fabric is characteristic of the *Second or Transitional Period:* beside it, we find the black wares, now quite dull in tone, which gradually die out and disappear well before the third period; and red vases, both fine and coarse. In the later stages of the second period, brown pottery, polished or slipped, begins to be common, and pots with a fine red polish also occur.

Ribbed and fluted ornaments decrease: the fine herring-bone styles (well represented by the pyxis No. 1, which must have been preserved as an heirloom) being the first to go. A new type of decoration, however, makes its appearance, consisting of designs in white paint.[4] This, though known at Yortan, is very uncommon in the early cities of Troy. Incised wares continue to flourish (Fig. 6, Nos. 4, 5, 6, 17, 21, 22, 24), and lines are frequently filled with white.

The changes in shapes are indicated on Fig. 7. Notice the absence

[1] *B.S.A.* xix. p. 56, Fig. 4.

[2] The shape which we call the horned tubular handle is illustrated on Fig. 6, No. 8. Two only were found in the lowest stratum: they were the most common type in the second period and not rare in the third.

[3] In all excavated areas except Γ where the slope makes itself felt, this change shews above 3·70 m.

[4] No. 31 on Pl. VII and Fig. 7 is a good example.

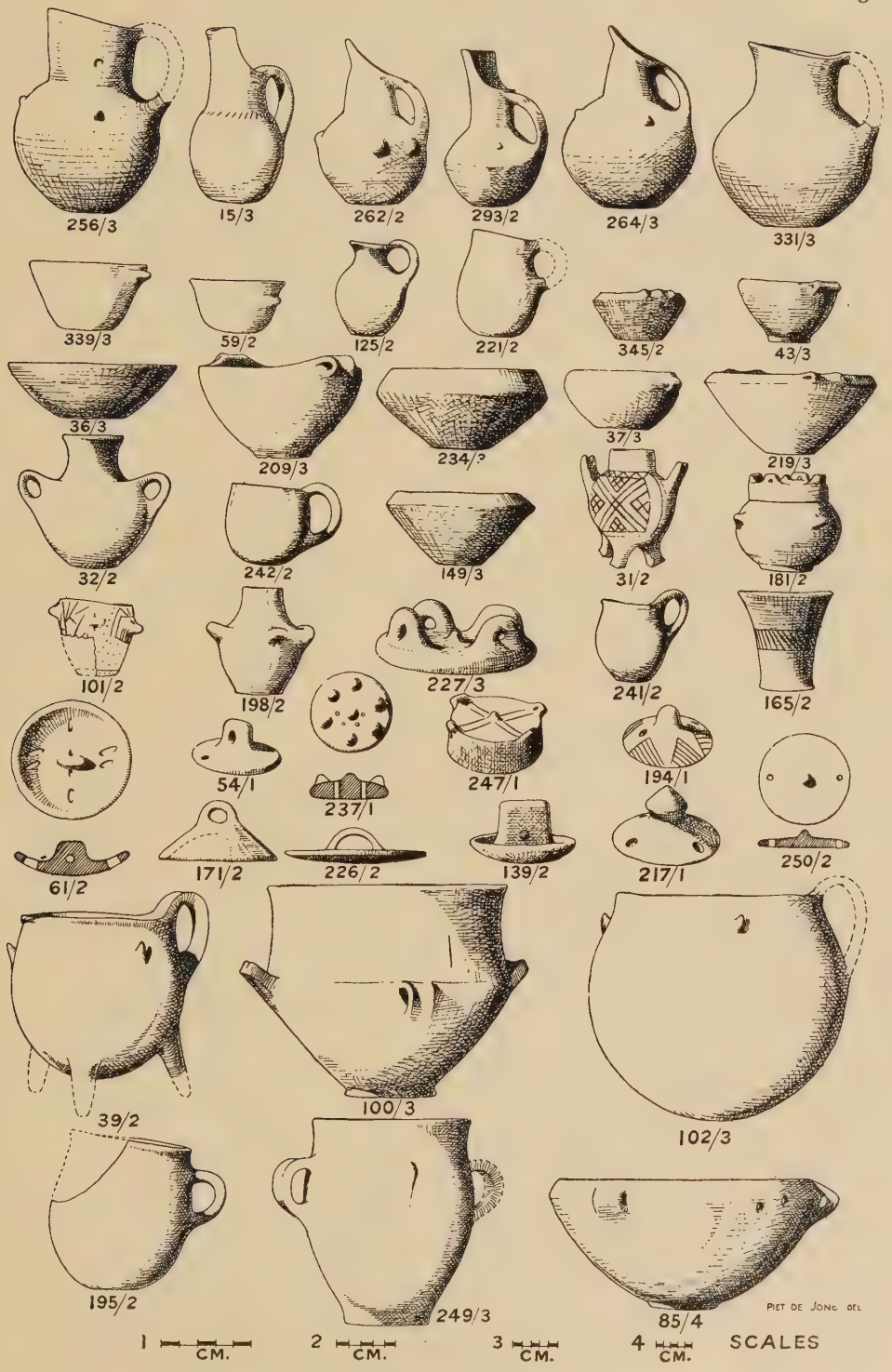


FIG. 7.—VASES: SECOND PERIOD.

of flat lids with obliquely cut string-holes like No. 295, of concavo-convex overlapping lids like 282, and of bowls with single handles like 336 [1]; conversely, the arrival of bowls with ' double ears ' on the rim (Fig. 8*a*) and lugs below; of the horned tubular handles (Fig. 6, Nos. 8, 9); and, at the end of the period, of lids with high knobs like 217. The incurved rims of bowls get less angular in profile and, by the end of the period, are slightly rounded, like 234.

Three remarkable vases belong more or less to this phase of development; the painted jar with three human feet (Pl. VII, No. 31) found at 5–4·5 m.; [2] the large incised pyxis which is covered with a pinkish-red wash, Pl. VII, No. 95, found at 4 m. [3]; and the painted over-lapping lid, Fig. 6, No. 1, which, since it was found exactly at 5 m., is on the border-line of Period III.[4]

Incision was especially characteristic of a certain type of saucer [5]

a *b*

FIG. 8.—*a*, BOWL WITH ' DOUBLE EARS.' *b*, HANDLE.

(Fig. 6, No. 17) adorned outside and sometimes inside as well—especially on the rim—with hatched triangles, chevrons, vertical lines on a row of lozenges with dotted centres.

The *Third Ceramic Period* followed the second without a break.[6] The pottery is now closely parallel to that from the earlier stage of the second city of Troy, and from the third stratum of the Toumba of Protesilaos; but it also shews points of contact with Macedonian and Early

[1] In Fig. 5 a miniature vase, 344, has one handle, but miniature vases appear to retain shapes abandoned by larger vases.

[2] For the human feet, cf. B.M. A. 55 from Yortan. For the general shape, cf. Berlin Inv. 2314 (119).

[3] Comparable with the pink-washed wares of Troy III.

[4] Cf. Berlin Inv. 463.

[5] Cf. *S.S.* 111, the unique rim already quoted; *S.S.* 2465 and 2466 from the second city seem to belong to saucers of this type.

[6] In all excavated areas except Γ it begins at about 4·85 m.

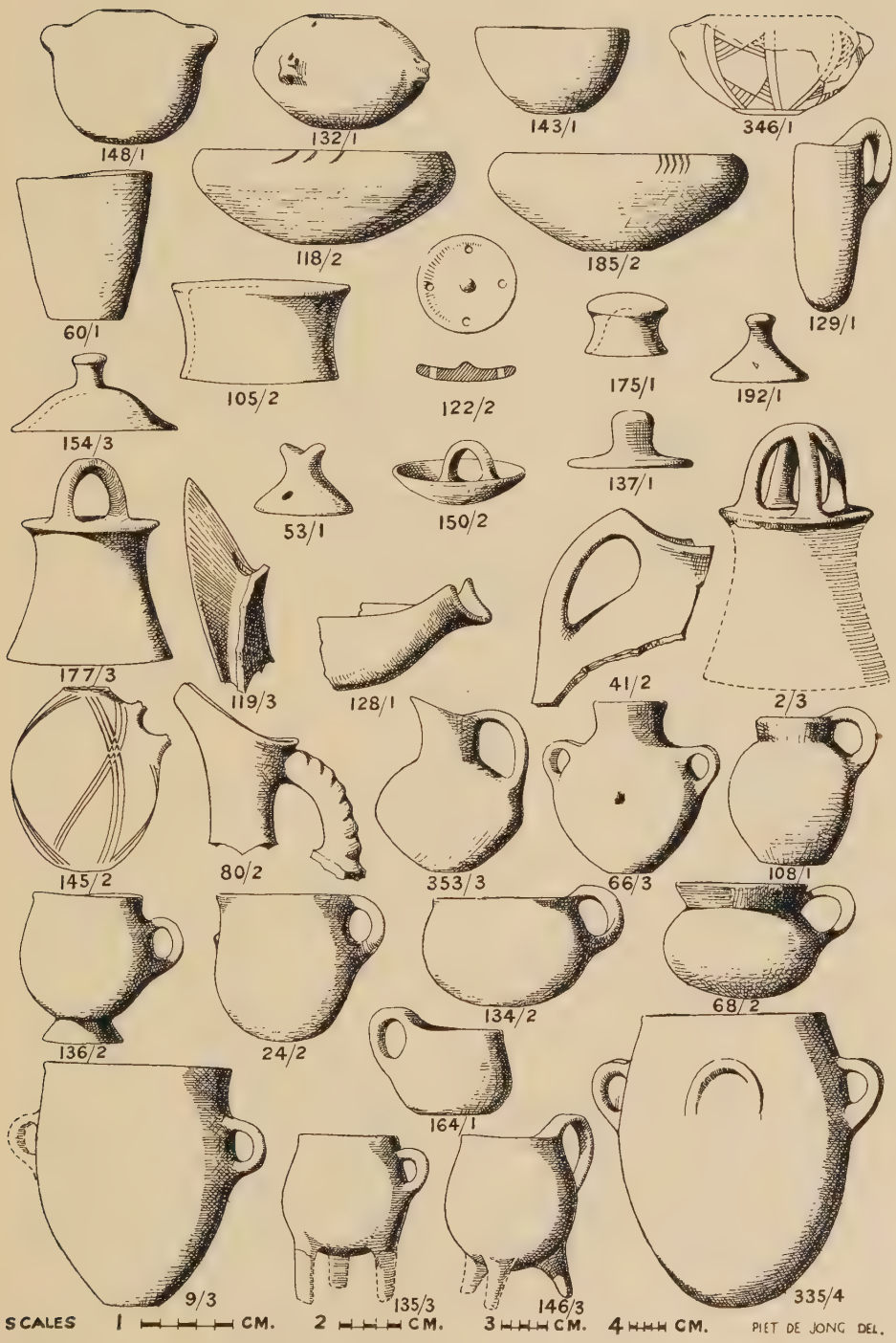


FIG. 9.—VASES: THIRD PERIOD.

Helladic wares. The principal groups were (i) small and moderately fine vases coated outside and, if possible, inside with a highly-polished brown, grey or yellow slip; (ii) coarser vases often unslipped. The large storage pithoi shew new developments in shape and decoration, but space necessitates postponing their discussion till next year's report.

Incised decoration continues, but was less well executed and much more sparingly used.[1] Its most typical form is that of parallel vertical lines on the rims of bowls (Fig. 6, No. 2). Coarse parallel ribs also occur. Paint, however, is no longer employed.

Typical of this period are certain handles :—the twisted rope handles belonging to jugs; handles like Fig. 8*b*; a shape with Early Helladic parallels (Fig. 9, No. 41); 'wing-handles' (Fig. 9, No. 119)[2]; handles with vertical grooves; and strap handles on lids.[3] Horse-shoe lugs, such as the pair adorning No. 335 on Fig. 9, are also late; so, too, are pedestalled cups like Nos. 348 and 136 on Pl. VII. The development of the bowl and the preference for a rounded profile in period III have already been mentioned : the over-lapping lid, which had started with a concavo-convex outline, and passed through a stage represented by No. 1, (Fig. 6) now becomes definitely concave : the cutaway lips of jugs are no longer severe and angular, but curved and flamboyant as in No. 80 (Fig. 9). Jugs like No. 264 in Fig. 7, once so common, seem to have left no descendants.

Three-legged cooking pots continue, but the handles are less high swung and the pointed knobs, very characteristic of the earlier period, have disappeared. A unique form is represented by part of a sauce-boat (No. 128), with a flat, simple spout resembling that of the gold sauce-boat from Troy,[4] and of the examples from Tell al 'Ubaid and Lake Van[5] and one or two sherds from Macedonia.[6] Contrast the high, mannerised forms which were in use on the Greek Mainland.

Overlapping lids are associated at Troy with the face-urns, of which

[1] No. 346 in Fig. 9 and No. 182 in Pl. VII and Fig. 6, 3 shew original patterns; No. 145 is very coarse.

[2] In 1931, however, we found them in the second period.

[3] These begin a little earlier, at the end of period II. See Fig. 7, No. 226 and Fig. 9, No. 150.

[4] *S.S.* 5863.

[5] Woolley, *Ur Excavations*, i. Pl. XLIX, T.O. 516.

[6] One of these is a surface find now in the collection of the British School. The other comes from Saratch.

we found no example at Thermi. Their absence is, however, not surprising when we consider that Troy, so cosmopolitan in many ways, is the only site belonging to this culture where they are represented.[1] Two-handled beakers were, like wheel-made pottery, a later invention.

Absolute chronology is impossible, but we may suggest that the first settlement at Thermi was made during the last half, more probably, the last quarter, of the fourth millennium, and lasted until about 2700 B.C.

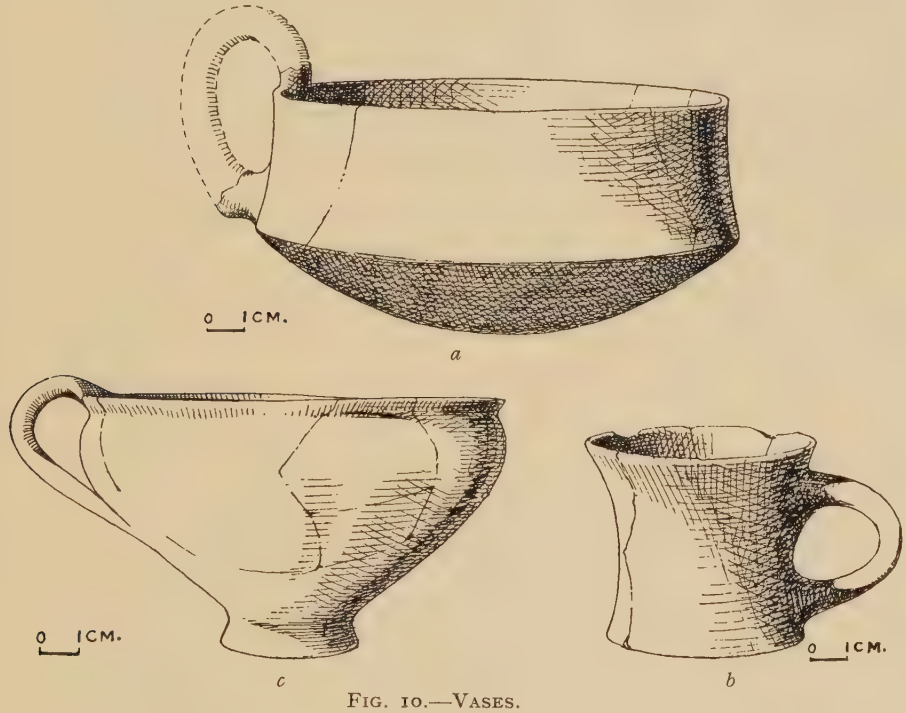


FIG. 10.—VASES.

Relations to Troy I have already been discussed with special reference to the painted sherds. It should be remembered that, with the exception of Troy itself, the Troadic sites were very self-contained and can rarely be dated by their imports from abroad, so that the typological dating offered here is subject to many corrections in so far as individual fabrics may have persisted much longer at one site than another. The absolute chronology is still more uncertain, but provisionally we may suppose

[1] Another Trojan form which does not occur at Thermi is the hour-glass beaker.

that the second period lasted from about 2700 to 2400 B.C. The third period was practically co-extensive with that represented by Schmidt's first division of the Troy II to V pottery, and probably corresponded with Schliemann's second city. It may therefore be dated between 2400 and 2000 B.C., or even 1800 if we assume it to have lasted till the fall of Troy II.

After that date the population dwindled, and the settlement proper was, as far as we can see, almost deserted. From the level of the late street, however, from the surface of I and H, and from the south-west test pits comes a rather fine red or grey ware coated with a fugitive pink slip; also fragments of an admirable red polished ware. Three whole pots, illustrated in Fig. 10, are paralleled in Troy VI, and handles of the same remarkable shape as *S.S.* 3137 suggest the same period.[1] From the south-west test pits come certain later wares: Lesbian *bucchero*, one or two stems of LH III kylikes and a few other sherds which seem to belong to some later Mycenaean or sub-Mycenaean fabric. These districts will be more fully examined and their contents published during and after the next campaign.[2]

R. W. H.
W. L.

Description of Plates VI, VII.

Pl. VI, upper half: Jugs of various Periods.

93. From B, *ca.* 4 m. Jug. Coarse brown ware. Ht. ·08 m.
35. From B, at *ca.* 3·60 m. Tripod jug. Red-black polished ware. Ht. ·12 m.
262. From E, 4–3·5 m. Jug: horizontal handles missing. Black polished ware. Ht. ·14 m.
221. From E, 4·5–4 m. Jug: handle restored. Coarse reddish ware. Ht. ·09 m.
125. From Γ, 4·50 m. Jug: base restored. Grey brown ware with traces of polish. Ht. without restoration ·06 m.
7. From A, at *ca.* 2 m. Jug: handle restored. Polished red ware, with incised decoration of chevrons and lozenges. Ht. ·12 m.

[1] Fig. 10, *a* is a polished red ware, very fine; *b* and *c* are grey and any polish or coating they may have had has vanished. It is not certain if they were wheel or hand made. For the shapes, cf. *S.S.* 3491 and 3177.

[2] Next year's report should include, besides the pottery from the outlying districts, the pithoi and the spindle whorls.

222. From E, 4·5–4 m. Jug: handle and part of lip restored. Coarse brown ware. Ht. ·105 m.

243. From Z, 4·5–4 m. Jug: handle restored. Red-black ware, polished. Grooved decoration. Ht. ·12 m.

57. From below street between B and E, 4–3·5 m. Jug. Brown ware. Ht. ·125 m.

Pl. VI, lower half: Vases of First Ceramic Period.

266. From E, 3·5–3 m. Pyxis. Black polished ware, ribbed. Ht. ·06 m.

189. From Γ, 3·08 m. Tripod Pyxis. Black ware, traces of polish. Ht. ·082 m.

208. From Γ, at 2·90 m. Pyxis. Black polished ware, ribbed. Ht. ·09 m.

180. From Γ, at 2·90 m. Pyxis. Red ware. Ht. ·07 m.

300. From E, 2·5–2 m. Bowl with two lugs. Coarse reddish-grey ware. Ht. ·045 m.

316. From Z, 3·5–3 m. Pyxis or jar. Coarse reddish-grey ware. Ht. ·063 m.

212. From Γ, at 2·70 m. Jug. Polished black ware, burnt red in parts: incised decoration. Ht. ·14 m.

291. From Z, 3·5–3 m. Jug. Fine red ware. Ht. ·138 m.

213. From Γ, at 2·70 m. Jug. Polished black ware, decoration, knobs. Ht. ·132 m.

12. From A, 3·5–3 m. Spouted jug. Polished greyish ware; grooved ornament. Ht. ·10 m.

98. From 3·5–3 m. Jug. Coarse red ware. Ht. ·16 m.

6. From Γ, at 2·85 m. Wide-mouthed jug or mug.[1] Polished red ware, decorated with knobs. Ht. ·145 m.

289. From Z, 3·5–3 m. Tripod jug. Black ware; polish lost. Ribbed decoration: 3 knobs. Lip restored. Ht. ·18 m.

Pl. VII, upper half: Vases of Second Ceramic Period.

1. From below street dividing B and E, at 4·40 m. Pyxis. Black 'rippled' ware. Ht. ·085 m.

101*a*. From A, 5–4·5 m. Cup with four lugs. Coarse red-black ware: punctured and incised decoration. Ht. ·06 m.

196. From Z, 5–4·5 m. Tripod cup: part of handle and rim restored. Coarse grey ware with traces of slip. Ht. ·105 m.

245. From E, 4–3·75 m. Cup. Coarse red-grey ware. Ht. ·065 m.

181. From Γ, 3·60 m. Pyxis: black ware originally polished. Ht. ·085 m.

165. From Γ, 3·70 m. Tumbler. Part of rim restored. Grey-black ware, incised. Ht. ·083 m.

198. From Z, 5–4·5 m. Jar: base missing. Greyish ware, traces of slip. Ht. ·094 m.

[1] Measurements of heights include the handle; measurements of diameters do not.

32. From below street between B and E, at 5–4·5 m. Jar: red-black ware, polished. Ht. ·105 m.
31. From same area and level as 32. Jar with human feet. Red-black ware. Decoration of zig-zags, lozenges and crossed lines in yellow paint on one side only. Ht. ·10 m.
283. From Z, 4–3·5 m. Jar of ribbed red-black polished ware. Four holes in rim. Ht. ·063 m.
95. From A, at *ca.* 4 m. Large tripod pyxis, of coarse red ware, covered with red wash. Incised decoration. Ht. ·15 m.
288. From Z, 4–3·5 m. Stand? Black polished ware with incised lines filled with white. Parts of the crossed strands inside are restored. Ht. ·09 m.
337. From Γ, at 3·90 m. Bowl with low solid foot. Red polished ware, incised. Ht. ·065 m.: diam. ·18 m.

Pl. VII, lower half: Vases of the Third Ceramic Period.

121. From Γ, ·25 m. below surface. Jar with two pierced lugs, one restored. Coarse brown ware. Ht. ·08 m.
132. From E, 5·5–5 m. Pyxis. Coarse grey ware. Ht. ·065 m.
182. From Z, at *ca.* 5 m. Pyxis. Red-buff ware. Incised and punctured decoration. Ht. ·076 m.
148. From E, 5·5–5 m. Jar with two pierced lugs: base restored. Red-brown ware. Ht. without restoration, ·065 m.
164. From Z, 5·5–5 m. Cup: Coarse brown ware. Ht. ·055 m.
348. From E, 6–5·5 m. Pedestalled cup. Part of lip restored. Coarse red ware. Ht. ·105 m.
136. From E, 5·5–5 m. Pedestalled cup. Brown ware. Ht. ·13 m.
16. From B, 5·5–5 m. Jug. Coarse brown ware. Ht. ·11 m.
60. From street between B and E. Tumbler. Coarse reddish-grey ware. Ht. ·075 m.
68. From I, 5·5–5 m. Cup. Part of body and base restored. Coarse brown ware. Ht. ·095 m.
150. From E, 5·5–5 m. Tripod bowl: two lugs and part of body restored. Ht. ·09 m.
134. From E, 5·5–5 m. Wide mug: part of rim and body restored. Coarse dark grey ware. Ht. ·097 m.

Figurines.

The figurines from Asia Minor in general and from Troy in particular shew a surprising diversity of type. The same diversity characterises the figurines from Thermi, and here it is even more striking, for they come from a comparatively small town and an unexpectedly short period.

With one exception, no example either from the 1929 or the 1930 excavations was found lower than 4 metres (actual level) or 2 m. below the surface: in other words, the lowest strata have not yet produced any terracottas. The one exception is a fragmentary figure from the disturbed part of Γ: there are also certain specimens from the dump. The latter can safely be assumed to come from the same strata as the rest, first because they conform in type, secondly because the workmen had, by the time they reached the bottom metre, become expert in finding such things. In contrast with the terracottas, the two stone figurines, Fig. 11 *a* and *b*, come from the strata below 4 m.: *a*, indeed, was close to virgin soil.

The clay of which the terracottas were made is nearly always particularly ill fired and friable; sieving the earth for missing heads was often attempted and always unsuccessful; it seems, therefore, certain that many of the missing parts have become dust.

Some of the examples belong to definite types, others are hybrids, and a few are too fragmentary to be classified. With regard to the chronological sequence of these types, we can only say, after examining their distribution between the surface and 4 m., that the fiddle-shaped figures appear at a higher level than the rest, and that the 'dressed and ornamented' type has, so far, been found only between 5 and 4 m., and has been confined to two particular areas. Three of them actually come from the same room, B. 6 of the second city.

Terracotta figurines with dress or ornament.

29. 1. Plate VIII (back and front views). Female figure of reddish-black ware. Head, arms and base missing. Ht. ·082 m. From B. II. house 6, depth *ca.* 4·15 m. The head was probably thicker than the head of No. 29·2, and the features and hair rendered plastically: the arms look as if they had been raised: the base would have been columnar. The interest of the figure lies in the costume. It is not certain whether two garments or one are represented: in the former case, we have a short tunic; in the latter, a dress which could well be described as βαθύζωνος (Il. ix. 594). At the neck and below the waist are fringes or lines of embroidery: the fringe would be more appropriate to the short tunic, embroidery, perhaps an embroidered belt and collar, to the long dress. Notice the crossed straps across the breasts, a device associated with later Greek costume. They meet low down at the back, and are either sewn on to the line of embroidery or carried round the waist (in which case they are identical with the line incised above the 'fringe'). At the back of the neck, the ends of the collar are tied in a knot from which two strings depend. The necklace

is rendered by punctured dots, and the ends of the fringe or embroidered belt below the waist are also punctured.

For the cross-bands, cf. the figures from Kul Tepe and Adalia : [1] here, too, punctures and incision are used. The figures from Adalia appear to wear necklaces. Nearer geographically and to a certain extent stylistically is the upper part of a figure from Troy.[2]

29. 3. Pl. VIII. Upper part of similar figure, of blackish ware. Ht. ·041 m. From B. II. 6, at *ca.* 4 m. Breasts missing, as well as head and most of body. Cross bands and necklace, as on No. 29. 1.[3]

29. 5. Pl. VIII. Part of male figure. Ht. ·087 m. From the house B. II. 6, at *ca.* 4 m. The reconstruction of the lower piece of the figure is uncertain, nor is it easy to explain the protuberance above the belt with three holes pierced round it. The punctured markings may represent embroidery on short tunic or, less probably, tattooing on the naked chest. Had tattooing been practised we should almost certainly have found *pintaderos* like those in Macedonia.

29. 9. Pl. VIII. Part of figure of uncertain sex, reddish-black ware. Ht. ·062 m.; from beneath the street which divides B and E, at 4·80 m. The head is missing; the legs are divided; the arms, indicated by rounded excrescences at the sides, seem related to those of No. 30. 41. Two bands cross the chest and a depression has been made where they meet.

Terracotta figurines : columnar.

29. 2. Pl. VIII. Figure, presumably female, of reddish clay, better baked than usual. Ht. ·084 m. From area below north room of B. IV. 1, at 4·50. For the shape of the head, cf. *S.S.* 7696, etc. and 7363. No features are indicated, but they may originally have been painted. The arms, raised crescent-wise, are interesting, since they recall the late Mycenaean 'dollies.' The origin of the latter has long been obscure : whether or not our terracottas could throw light on it depends on whether any relevant material can be found belonging to the period between 2000 and 1400 B.C.

30. 11. Pl. VIII. Figure like No. 29. 2 of reddish-buff clay comparatively well baked. Ht. ·09 m. From Θ, 5–4·5 m. The arms were probably raised.

30. 31. Pl. VIII. Female figure, of red-brown ware. Ht. ·067 m. From Z, 4·20–4 m. Breasts, nose, hair and feet are rendered plastically.

30. 28. Pl. VIII. Female figure of coarse ware, red within, black without. Ht. 0·11 m. From E, 4·50 m. Like the last, save that the nose is missing and the base broken off. Wrongly numbered on Pl. VIII as a second 30/11.

[1] *B.S.A.* xix. p. 59 (in the British Museum). See also p. 54, Fig. 3, from Thyatira. *Liverpool Annals*, ii. pp. 145 ff. Pl. XXVI.

[2] Schliemann, *Bericht*, 1891, Pl. I. Fig. 2; cf. also Schliemann, *Ilios*, Fig. 193.

[3] Another fragment, resembling 29. 3, was found between 5 and 4·50 m. beneath the street which divides B and E.

Several other examples of columnar figures occur; one comes from I, 5·5–5 m., one from E, 5·5–5 m., one from 5·75–5·25 m., one from E, 6–5·5 m. An isolated head resembles No. 30. 28 so closely that we can assume it to belong to the same class. The type seems to be represented at Troy by *Troja*, p. 142, No. 71.

Terracotta figurines with divided legs.

30. 41. Plate VIII. Headless figure of red-brown ware. Ht. ·17 m. Unstratified.

Eight other examples, fragmentary, one from 6–5·5 m., four from 5·5–5 m., two from 5–4·5 m., one unstratified.

Are these figurines male or female? There is no indication of sex, but one is tempted to consider them the male counterpart of the obviously female columnar figures. On the other hand, the nearest parallel to the position of the arms is given by the lead figurine, possibly imported from the south-east, found in Troy II. This suggests that our figure had the lower arms raised diagonally towards the breasts in the manner associated with early female figures.

Terracotta figurines: globular.

30. 8. Pl. VIII. Pendant of blackish-red clay. Diam. ·048 m., from Θ, 5·75–5·25 m. The pendant is made anthropomorphic by the addition of breasts, and perforated for suspension through the horned crescent at the top.

30. 27. Pl. VIII. Globular fragment of coarse red ware. Ht. ·06 m. From Z, 5–4·50 m. The incised decoration is remarkable: if the figure is reversed, we might compare *Ilios*, No. 412, where the eyes are divided by a couple of straight lines for brows. There would, however, be no parallel for the zigzag marking in this connection.

Terracotta figurines: fiddle-shaped. (a) *Simple type.*

29. 6*b*. Pl. VIII. Lower half of body: brownish-red ware. Ht. ·046 m. From B. IV. 2, south-west room, 5·5–5 m.

Two other examples of this type were found, both in the first half-metre.

The missing head and shoulders were probably of the shape illustrated in *S.S.* p. 279, *i.e.* they were more or less like the smaller end of a violin, or the head of an owl. Contrast the cruciform head and shoulders also associated with fiddle-shaped figurines. The type has been found in Crete, the Cyclades, Asia Minor, the Caucasus and Mesopotamia.[1] Though it flourished in the neolithic period, it seems to have survived into the Early Bronze Age: the Trojan 'owl figures,' a variation of the same type, are said to come from the second city.

[1] See Evans, *Palace of Minos*, i. p. 48.

Terracotta figurines: fiddle-shaped. (b) *Type with punctured holes.*

30. 15. Pl. VIII. Female figure of red-black ware. Ht. ·09 m. From Z, 6·10 at 5·5 m. For the downward curving arms, cf. No. 29. 5. It is possible to reverse the figure and consider the two holes as eyes, but (1) eyes would not be punctured through the surface; (2) the figure closely resembles No. 30. 17 below, which is connected with others where the violin-shaped half is certainly the lower.

30. 26. Pl. VIII. Figure, probably female, of red-black ware. Ht. ·084 m. From bothros F in Z, at 4·58 m.

30. 17. Pl. VIII. Fragmentary figure of red clay. Ht. ·043 m. From

a *b*

FIG. 11.—STONE FIGURINES.

5–4·5 m. Four holes are pierced at each side. This raises the question whether these holes were meant to facilitate the attachment of something ornamental: they are in the wrong place for suspension.

Terracotta figurines: various.

30. 45. Pl. VIII. Figure of polished red ware. Ht. ·07 m. From dump.

This probably belonged to the fiddle-shaped type, for the lower part of the body, now chipped away, evidently expanded. If so, we have a useful illustration of the head that belonged to such figures: for the owl-like features, cf. *Ilios*, 412.

30. 1. Pl. VIII. Complete figure, of buff clay. Ht. ·062 m. From dump. This is a hybrid, the base being columnar, the upper part like No. 26.

30. 21. Pl. VIII. Female (?) figure, of red clay. Ht. ·065 m. From Z, 5·5–5 m. Hips and feet are indicated plastically.

29. 10. Pl. VIII. Female figure, lower end wedge-shaped, of reddish clay. Ht. ·06 m. From B, 6–5·5 m.

29. 48. Pl. VIII. Male figure, of brown clay. Ht. ·063 m.

The remaining examples are too fragmentary to provide information on any particular type, and space does not permit their inclusion.

Stone figurines : globular.

30. 35. Fig. 11, *b*. Marble, stained brown by contact with soil, and well polished. Ht. ·085 m. From E, 4 at 3·5 m.

30. 54. Fig. 11, *a*. White marble. Ht. ·05 m. From E, 2·5–2 m.

Both these examples belong to a very widely distributed type, particularly common at Troy. That it really represents a crouching female figure has been demonstrated by Sir Arthur Evans, *P. of M.* pp. 47–50. For the counterpart in terracotta, cf. No. 30. 27.

Stone figurines : elongated.

30. 58. Pl. X. Limestone figure. Ht. ·12 m. Surface.

30. 59. Fragment of similar figure. Basalt? Ht. ·076. From Γ surface half-metre.

For these types, cf. *S.S.* 7574 from Troy and the more developed figure from Sykeon Galatia.[1]

METAL.

It is noticeable that more copper objects were found in the lower strata than in the higher, but as many of the objects in question were small and sharp, it may well be that they percolated downwards. Therefore we cannot be sure if it is accidental that round-headed pins start before square-headed pins : [2] possibly not, because the square-headed type seems to take the place of pins with round head and thickened neck like Fig. 12, No. 4. Fig. 12, No. 3 belongs to the type with end flattened and rolled up (cf. *S.S.* 6395) : No. 18 is evidently another more fragmentary example. Nos. 1 and 4 have no exact parallel at Troy and the latter is confined to our lowest stratum. No. 2 probably resembled *S.S.* 6401, with its end divided into two pieces each rolled spirally. Needles like No. 16 are

[1] Evans, *Palace of Minos*, i. p. 48, Fig. 13, No. 16.

[2] The square-headed appear between 3 and 3·5 m., *i.e.* at a very low level, but below 3 m. only round-headed pins have been found.

fairly common in the Early Bronze Age : so too are the drills.[1] Other tools are represented by the punches Fig. 12, Nos. 27–29, and the celts, Pl. IX, Nos. 30, 31, 34, 35. These celts, which could be used as axe, adze or chisel, though belonging to the same class, vary in length, sharpness of butt and spread of cutting edge, while No. 30 has rudimentary flanges.[2] Weapons are very rare. No. 40, which exaggerates a common Trojan type with recurved blade,[3] can have been of no use in warfare.

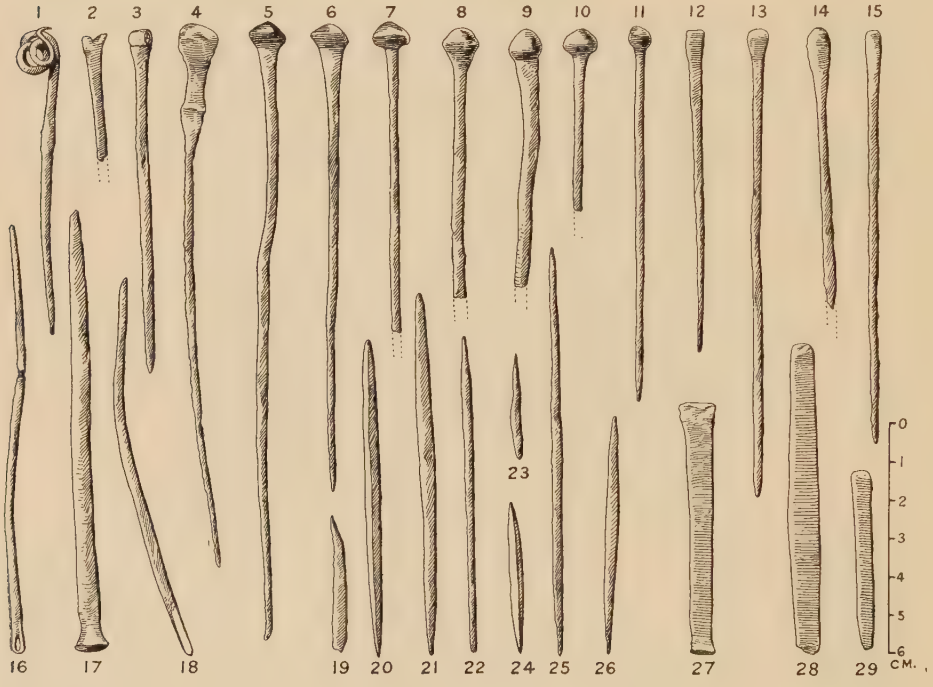


FIG. 12.—METAL PINS, DRILLS, ETC.

This leaves the tanged dagger, No. 36, ordinary save for its triply bored tang, the fragment No. 37, too corroded for its profile to be discernible, and the arrow-head No. 38 which does not come from the settlement and may be later than the Early Bronze Age. There is also a curious intruder,

[1] See Blegen, *Zygouriés*, p. 183, Pl. XX. 18; Tsoundas, *Ἐφ. Ἀρχ.* 1899, Pl. 10, Nos. 9, 12 (from Chalandriane).

[2] The metal celts from Troy are of the longer type : cf. *S.S.* pp. 227–241, 265, 6. Near to ours are the celts from Bounarbashi Giöl, *B.S.A.* xviii. p. 93, Fig. 9.

[3] Such as *S.S.* 6189–6193, 6202, 6204.

an apparently modern iron blade, which was found at a level of 4 m. in Γ, *i.e.* in a disturbed area not far from the surface.

In the lower half of Pl. IX are two crucibles for melting copper. No. 1 was found in the lowest stratum of E, at a depth of 2·34 m. and beneath a series of floor levels in the area of the house E. I. 3. The channel for pouring out the liquid can be seen at one side: the broken part must have been a projection which could be used as a handle. *S.S.* 6850, an unstratified crucible from Troy, is a good parallel, and there is another from Sesklo.[1] For the small round type (Pl. IX, ii) with channel in rim at one side, cf. *S.S.* 6826: ours was found in H at 5–4·5 m. The prettiest of the metal finds is the ring or bracelet (No. 43), made of twisted wire; the most interesting is the button seal, No. 42, with a decoration recalling the gold knob *S.S.* 6434, but with extra complications that might be interpreted as stylised figures. A surprisingly close parallel is given by a seal from Susa II.[2]

The following is a selection from the metal objects of which fifty-eight were found. All are of copper unless otherwise stated.[3] (Fig. 12, Pl. IX.)

1. = 30/13. Pin with spiral head.[4] From Z, 4·75 m.
2. = 30/4. Fragment of pin with double spiral head (cf. *S.S.* 6401). From Θ, surface half-metre.
3. = 30/31. Pin with rolled head, broken (*S.S.* 6395). From E, 4–3·5 m.
4. = 30/47. Pin with knob head and swelling below. From E, 3–2·80 m.
5. = 30/35. Square-headed pin. From E, 4–3·5 m.
6. = 30/19. Square-headed pin. From Γ, 4·50 m.
7. = 30/21. Round-headed pin. From E, 5–4·5 m.
8. = 30/56. Round-headed pin. From E, 2·5–2 m.
9. = 30/48. Pin with cone-shaped head. From H, ·25 m. below surface.
10. = 30/42. Round-headed pin. From E, 3·5–3 m.
11. = 30/18. Round-headed pin. From Z, ·25 m. below surface.
12. = 30/44. Square-ended pin. From Z, 4–3·5 m.
13. = 30/33. Pin with rounded end. From E, 4–3·5 m.
14. = 30/20. Pin with rounded end. From E, 5–4·5 m.

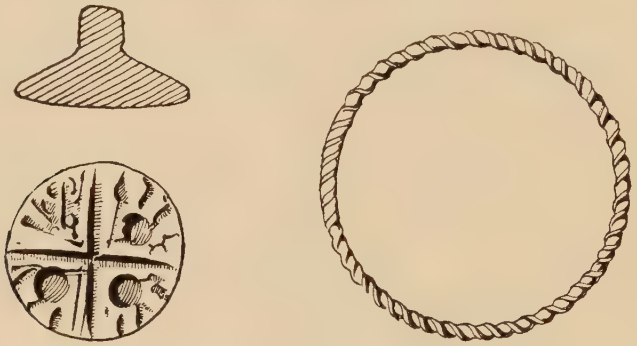
[1] *Δ.Σ.*, p. 349, Fig. 288.

[2] Childe, *Most Ancient East*, p. 151, Fig. 63. I am indebted to Mr. Hutchinson for the parallel. There is also a resemblance to the Seals, Hogarth, *Hittite Seals*, Nos. 127–131, in design. As our seal came from the dump it may belong to any period contemporary with or later than the settlement.

[3] See p. 39 for analyses.

[4] In the above list, the description does not distinguish between round-headed pins in the strict sense of the word and round-headed pins with pointed tops: the drawing shews which are which. Both types occur at Troy (*S.S.* pp. 252–3).

15. = 30/50. Pin with oblong end. From E, 2·5–2 m.
16. = 29/1. Needle. From E, 3·40–·10 m.
17. = 30/8. Nail; probably later than settlement. From South Pit I, surface half-metre (4·60–4·10 m.).
18. = 29/6. Pin with rolled head: broken. From B, 3·25–3 m.
19. = 30/10. Copper tool (complete). From A, surface half-metre.
20. = 29/3. Drill, square in section; double pointed: one end rounded. From B, 3·60 m.
21. = 29/5. Drill, as No. 20. From Δ, 3·25–3 m.
22. = 30/53. Drill?, one end rounded, the other broken. From E, *ca.* 2·5 m.
23. = 30/41. Miniature drill. From E, 3·5–3 m.
24. = 29/4. Drill, as No. 20. Unstratified.



a *b*

FIG. 13.—*a*, SEAL(?). *b*, BRACELET.

25. = 30/38. Drill: one point square in section, one hammered flat. From E, 3·5 m.
26. = 30/45. Drill, as No. 20. From Z, 4–3·5 m.
27. = 30/5. Punch, complete. From E, 6–5·5 m.
28. = 30/15. Punch, apparently unused, oblong in section narrowing towards edge. From I, ·25 m. below surface.
29. = 29/7. Small chisel. Oblong section, quadrangular butt. Unstratified.

The next four were found welded together into a lump: they were detached by cleaning.[1]

30. = 30/34. Celt, broken in two pieces, length ·89 m. From Z, 4·5–4 m.
31. = 30/34. Celt: spreading blade, no flange. Length ·11 m. From Z, 4·5–4 m.
32. = 30/34. Lump of copper with knob at top. From Z, 4·5–4 m.
33. = 30/34. Lump of copper: no knob. From Z, 4·5–4 m.

[1] Can the discs have had the same function as those of *S.S.* 5822?

The three following formed a 'hoard' found ·25 m. below the surface on the edge of the 'Potter's Pool,' where the local potter digs his clay. With them were pot-sherds like those of our second period (Towns IV and V).

34. = 29/10. Celt: spreading blade: no flange: length ·14 m.: one tip of blade chipped. Potter's Pool.
35. = 29/9. Celt: blade more spreading than previous examples: butt missing: length ·088 m. Potter's Pool.
36. = 29/11. Dagger: no central rib, but flat tang pierced by three rivet holes: length ·11 m. Potter's Pool.
37. = 30/32. Fragment of copper blade: corroded all round: length ·095 m. From E, 4–3·5 m.
38. = 30/7. Javelin head: thickened central rib and tang. Tip broken. Present length ·057 m. From South Pit II, surface half-metre.
39. = 30/5. See No. 27 above.
40. = 30/9. Knife, with point twisted upwards. Fragmentary. Cf. *S.S.* 6202. From Γ, surface half-metre.
41. = 30/11. Disc: pierced. From Z, 6·10–5·50 m.
42. = 30/26. 'Seal' (?) ornamented. From Γ, dump. Fig. 13, *a*.
43. = 30/24. 'Bracelet' of copper wire and iron. The copper wire was wrapped round the iron, and in one place the end of it can be detected: here the wire has been hammered till it is flatter and wider than elsewhere. Diam. ·042 m. From E, 4·50 m. Fig. 13, *b*.
44. = 30/17. Lead 'bracelet,' open at one side. Diam. ·045 m. From Bothros No. 5 in Γ, at 3·85 m.

I am indebted to Professor Desch for the following report which he has kindly allowed me to include:—

ANALYSES OF COPPER SPECIMENS FROM THERMI IN LESBOS.

Inventory Number.	Level.	Copper, %.	Tin, %.	Nickel, %.	Lead, %.	Iron, %.
30/29	2·50 m.	100				
30/22	5–4·5 m.	97·93	1·65	0·42		
30/43	4–3·5 m.	99·26	0·74			
30/56	2·5–2 m.	100				
30/30	2·5–2 m.	99·95		0·05		
30/49	3–2·5 m.	99·15	0·16			0·69
30/42	3·5–3 m.	99·76		0·24		
30/10	·25 m. below surface	100				
30/34	4·5–4 m.	99·69	0·36	0·05		
30/36	5·5–5 m.	97·80				2·20
30/20	5–4·5 m.	95·99			2·66	1·35

Where no figures are given there are usually traces of these metals to be found, but too small to be recorded. They are not to be regarded as significant. Iron, when present, may quite well have been derived from the soil, and the small quantities of tin are probably accidental. As most of the specimens were more or less corroded, the water and carbon dioxide have been deduced and the composition calculated back to that of uncorroded metal.

The specimens are almost entirely copper, in some cases containing nickel in similar quantities to those found in the Sumerian excavations. The tin is in small proportions, and I do not think it has been added intentionally, so that the objects are to be regarded as copper and not as bronze. No. 30/17 may be regarded as being practically pure lead.

C. D.

Stone.

A. *Celts and Axes.*

The celts and bored battle-axes from Thermi are eighteen in number. Among the former are examples of Tsoundas' type A with variations; and examples of type B, of which none, so far, have been found below 4·5 m.[1]; nothing, however, belonging to type Δ and no true representatives of type Γ. The tendency to make diagonal blades like those of Nos. 53 and 56 is a characteristic of the site: such blades occur elsewhere, but less frequently. Another characteristic is the absence of celts with one flat and one convex side.

There are four battle-axes, all of which are paralleled at Troy, except the surface find 30/9. Those with curved butts are amongst the most important objects from the site. Only three others are known from Greek lands: the first from Sesklo, the second from Zerelia, the third from Hagios Mámas.[2] The Hagios Mámas axe and ours are dateable, but not the other two. At Troy, the type includes, besides other humbler representatives, the magnificent axe of lapis lazuli and its fellows from treasure L. Further north, they extend from Jutland, where they may have originated, to South Russia. Thus they represent, at least,

[1] Contrast the Olynthus celts, where type B was the earliest. Mylonas, *Olynthus*, i. pp. 71 ff.

[2] Tsoundas, *Δ. Σ.* Pl. 41, 9; Wace and Thompson, *op. cit.* p. 164, Fig. 111 *h* (from the VIIIth city at Zerelia which contained elements of several periods); *B.S.A.* xiv. p. 219, Fig. 19; *B.S.A.* xxix. pp. 147–9.

northern influence, at most (but this is improbable) an Indo-European element absorbed into the early Anatolian stock.[1]

Oddly enough, no example of the hammer-axe with one rounded and one pointed end (*e.g. S.S.* 7219, *Prehistoric Thessaly*, p. 164, Fig. 111 *e, f*) has yet been found.[2]

Among the Troadic sites hitherto excavated, only Troy itself and the Toumba of Protesilaos have been explored sufficiently to provide material for comparison with Thermi, and the differences between the celts from Thermi and the Toumba are greater than one would expect considering their nearness in latitude, period and culture.

A. *Celts and Battle-axes illustrated on Pl. X and Fig.* 14.

30/11. Celt, with moderately sharp butt and blunt edge. The edge is polished, the rest partly polished. Like Tsoundas' type A, except for the blunt edge and the additional polish.
Material, hard black igneous rock. Length, ·098 m.
From H, surface half-metre.

30/15. Celt, with moderately sharp butt : polished. Tsoundas' type B.
Material, serpentine. Length, ·033 m.
From I, 6–5·5 m.

30/30. Celt, with sharp butt : highly polished towards the edge. Tsoundas' type B.
Material, gabbro. Length, ·066 m.
From Z, at 5 m.

30/23. Celt, with blunt butt and slightly diagonal cutting edge. Traces of polish.
Material, gabbro. Length, ·075 m.
From E, 5–4·5 m.

30/4. Butt end of battle-axe with down-curved butt, bored from both sides. Cf. *S.S.* 7196.
Material, basalt. Thickness through hole ·041 m.
From Θ, 5·75–5·25 m.

29/3. Celt, with butt and cutting edge chipped. All the surface polished.
Material, emery. Length, ·075 m.
From B, 5–4·5 m.

29/2. Celt, with sharp butt, highly polished cutting edge, and slight polish on rest of surface.
Material, a black igneous rock. Length, ·065 m.
From A, 5–4·5 m.

[1] I am indebted to Mr. Hutchinson for this information.

[2] The implement described on p. 44, besides being of a softer material, belongs to a different class.

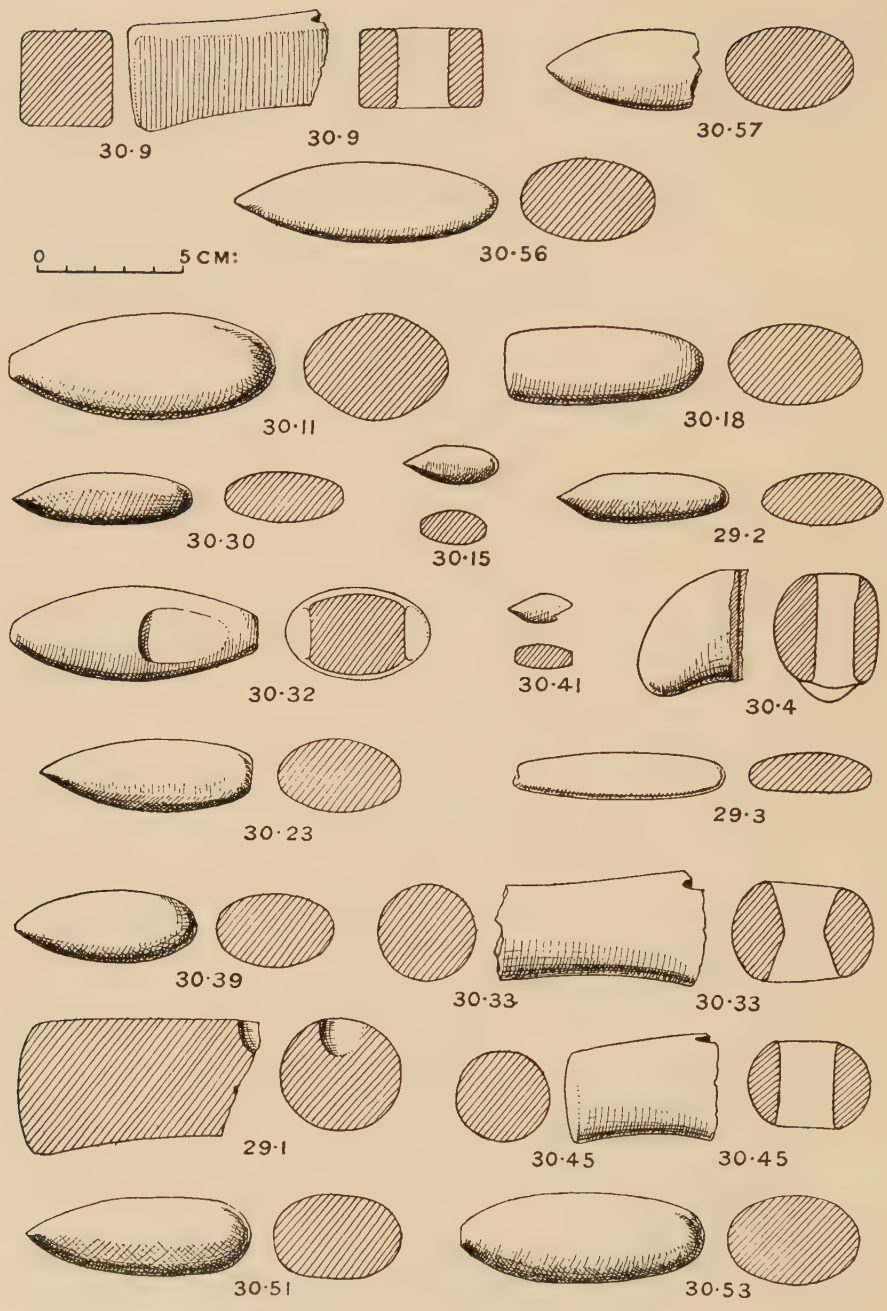


FIG. 14.—STONE CELTS AND BATTLE-AXES.

30/32. Axe, notched for hafting, with blunt butt, and very slight traces of polish. Cutting edge chipped.
Material, gabbro. Length, ·086 m.
From Z, 5–4·5 m.

30/39. Unfinished celt; the cutting edge is not sharpened, and there are no traces of polish.
Material, ? serpentine. Length, ·065 m.
From E, 4–3·5 m.

29/1. Fragment of battle-axe,[1] probably broken in boring and unfinished.
Material, glaukophanite. Length, ·088 m.
From B, at 4·20 m.

30/45. Fragment of battle-axe bored from both sides. Cf. *S.S.* 7182, p. 273.
Material, ? serpentine. Length, ·053 m.
From E, 3·5–3 m.

30/41. Celt with blunt butt, highly polished.
Material, ? serpentine. Length, ·02 m.
From E, 3·30 m.

30/51. Celt, with blunt butt and polish on most of surface.
Material, gabbro. Length, ·083 m.
From E, 3–2·5 m.

30/33. Fragment of battle-axe, bored from both sides.[2]
Material uncertain. Length, ·07 m.
From Γ, 2·70–2·60 m.

30/53. Celt, with blunt butt, and diagonal cutting edge chipped at one end. The cutting edge too is blunt. Slight polish on edge and part of surface.
Material uncertain. Length, ·085 m.
From E, 2·55–2·45 m.

30/56. Celt, with blunt butt and diagonal cutting edge, chipped at the top.
Material, uncertain. Length, ·095 m.
Unstratified.

30/57. Celt with square butt. No traces of polish, but surface better ground at tip than elsewhere. Other short celts, but more finished, and with more spreading edge, are *S.S.* 7077 and *Protesilaos*, p. 25, Fig. 26, 1 and 3.
Material, uncertain. Length, ·055 m.
From the surface of South Pit II.

30/9. Fragment of bored battle-axe, square in section. Bored from one side only.
Material, gabbro. Length, ·07 m.
A surface find, from between North Pit II and Z.

[1] *Cf.* Kossinna, *Ursprung und Verbreitung der Germanen*, p. 234, Fig. 301. In Nos. 29/1 and 30/45 there are slight traces of polish in the hole.

[2] Hole mainly unpolished.

B. *Pounders of Hard Material.*

The three illustrated on Pl. X are of hard igneous rock : No. 30/19 comes from 5·5–5 m.; No. 30/55 from 3·5–3 m. Both are round in section and seem to be uncommon on Troadic sites.

C. *Hammers and Pounders of Soft Material.*

These are usually made of a soft local volcanic stone. Only one is bored through : the rest, four in number, have rudimentary borings at each side. Three are oval; one has a rounded end and a pointed end; the specimen that was bored through is too fragmentary for us to determine its shape. They were probably used for pounding corn. None has been found below 5 m.

FIG. 15.—LIMESTONE BOWL.

A large, double pounder of soft, local limestone comes from B, surface half-metre, Fig. 16, *j*.

D. *Stone Vases.*

1. Bowl of soft, white limestone. Ht. ·075 m.; diam. ·12 m. From E, 5·5–5 m., Fig. 15.

2–4. Three fragments of the rims of marble bowls, apparently Cycladic. No. 30/46 is from Z, 4–3·5 m., No. 30/25 from 3·90–3·60 m., No. 30/42 from 2·5–2 m. Fig. 16, *b*.

E. *Mace-heads, etc.*

29/4. Half a mace-head : shape, oblate spheroid : material, close grained white marble. Pierced from both sides. Fig. 16, *f*.

29/5. Fragment of biconical mace-head. Material, green and white igneous rock. Unstratified. Fig. 16, *g*.

30/52. This is not a usual shape for a mace-head and may have had some other function. Material, gabbro. Hole bored from both sides. From Z, 3·5–3 m. Fig. 16, *d*.

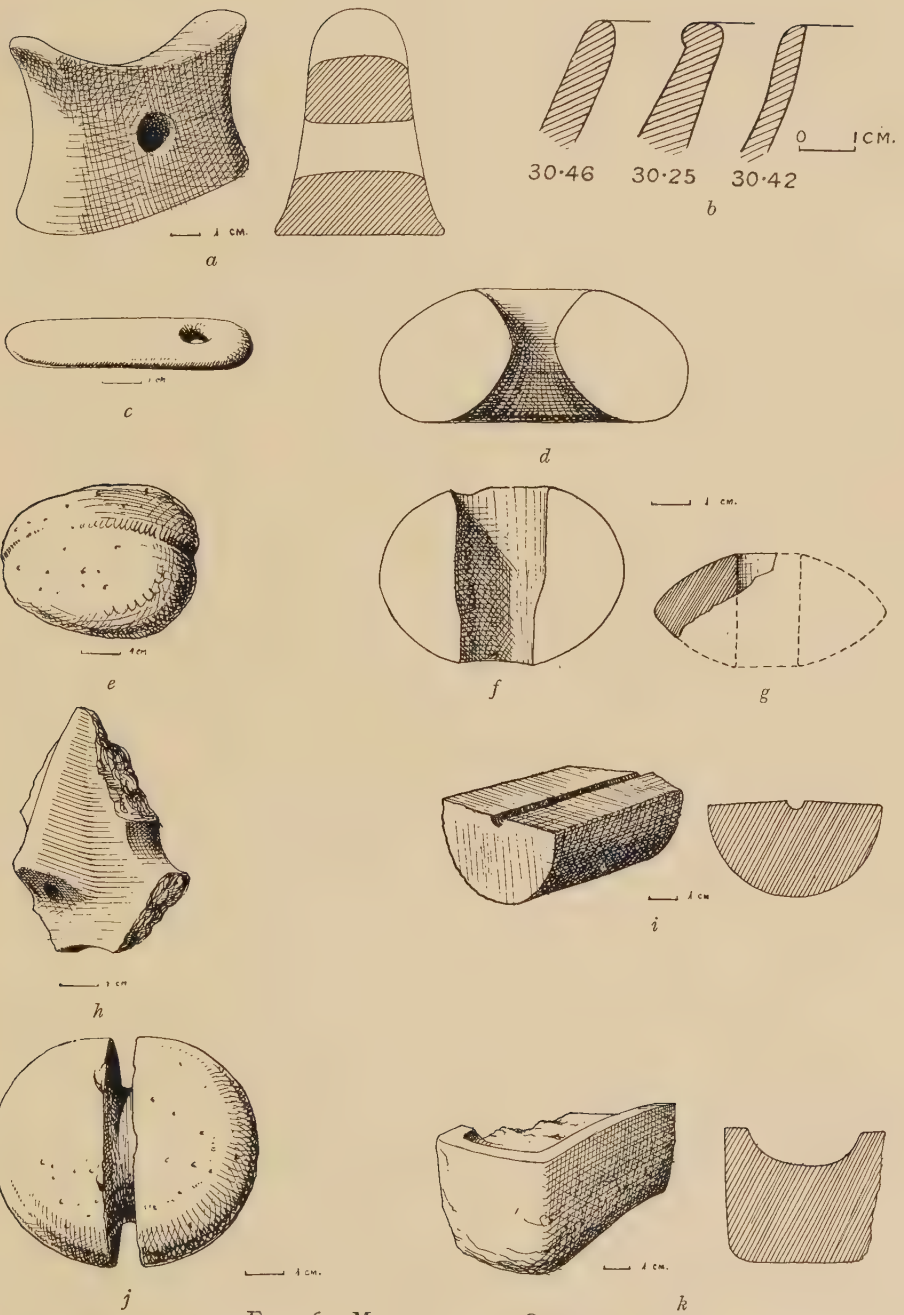


FIG. 16.—MISCELLANEOUS OBJECTS.

F. *Uncertain Object.*

Pl. X, No. 29/10 is of schist, with rudimentary borings at each side. From B, 3·5–3 m. Ht. ·166 m. Notched pebbles as 'idols' occur at Servia (Macedonia) and Troy, but the rudimentary boring on ours suggests it was for a more practical purpose.

G. *Pendants or Whetstones.*

These objects are common in prehistoric settlements (cf. *S.S.* 8636). Ours, five in number, are made of fine siliceous rock and, with the exception of a miniature example, are always bored from both sides (Fig. 16, *c*).

H. *Stone Sling Bullet.*

This is made of local volcanic stone, is shaped like a peach-stone, and comes from Z, 4–3·5 m. Fig. 16, *e*.

I. *Flints.*

A number of chips have been found on the site but no cores. The commonest implement is a knife (see Fig. 17, Nos. 4–7), of which there were at least seven specimens, all fragmentary, from strata of all periods. They are made of flint or chert with longitudinal flakes, regular in some blades, irregular in others, and with little or no secondary work.

The hand-axe or hoe, No. 1, was found in Γ between 2·25 and 2·00 m. No. 2 is a chip or scraper, from the second or third town. The beautiful but incomplete little blade No. 3,[1] discovered at 3 m., is so far the only implement where pressure flaking has been used.

No obsidian has been discovered, and this is remarkable since it was imported to Troy. Moreover, Lesbos itself is said to produce obsidian, but since neither we ourselves nor a local geologist working in the appropriate district could locate it, no doubt it eluded the prehistoric settlers as well.

J. *Saddle-querns.*

These were common at all levels, and often found upside-down.

Imported Material.—The material of many of these objects can be found on the island: two axes, however, are made of rock that is almost certainly imported. (i) Glaukophanite, No. 29/1. This, though well distributed over the Aegean, is unknown in Lesbos. (ii) Emery (No. 29/3), does not occur either. Our specimen probably came from the Cyclades. I am indebted to Professor Ktenas, of the University of Athens, for this information.

The marble of the three fragmentary bowls, though it appears to be Cycladic, cannot be identified with certainty. Their shape, however, is so typical that

[1] Also illustrated as No. 29/8 on Pl. X.

a Cycladic origin appears very probable. Gabbro, from which many of the celts are made, has not been found in Lesbos but occurs in north-west Asia Minor.

BONE.

Over 400 bone implements, whole or fragmentary, have been recovered from the site as against 181 from Troy and five from the Toumba

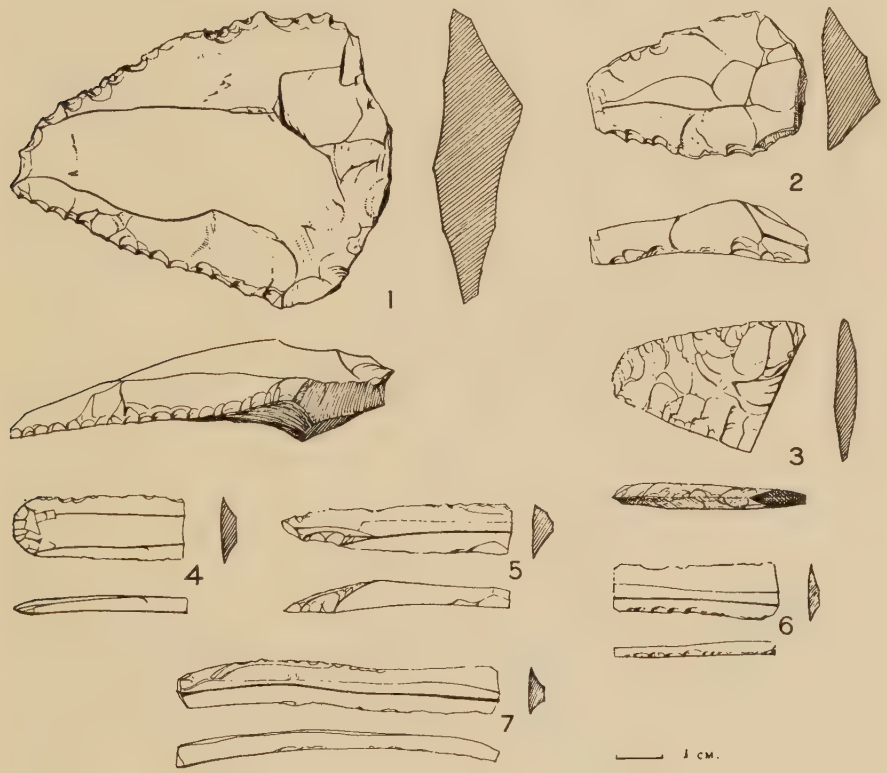


FIG. 17.—FLINTS.

of Protesilaos. The comparatively small number from Troy may be due (1) to their being overlooked by the workmen; (2) to their belonging to the first city of which only a small area was excavated. Their attribution to the first city, though it would correspond with the stratification at Thermi, is conjectural; for their exact find-spot is unknown.

At Thermi, only the more decorative specimens survive above 5 metres, *i.e.* in Towns IV and V: the less finished implements and tools

cease. This can hardly be due to the 'percolation' suspected in the case of the bronze needles, etc. (p. 35), for gouges and borers [1] with thick stems are found in the low levels, slender carved pins in the higher.

To illustrate the distribution of certain types, notes were made of those from Towns IV and V and those belonging to earlier periods.[2]

1. Tools with the joint of the bone used as handle, and blunt tip (Fig. 18, *f*, *g*). *Gouges?* Twenty-eight examples: three from Towns IV and V.

2. Tools with the joint of the bone used as handle, and sharp tip. *Awls?* Forty-four examples: three from Towns IV and V.

3. Tools with flat handle and sharp tip (Fig. 18, *d*). *Scrapers? Borers?* Eighty-six examples, none from Towns IV and V.

4. Tools like No. 3 but with blunt tip. *Scrapers? Blades?* Twelve examples, two from Towns IV and V.

5. *Pins* with joint of bone as handle (Fig. 18, *w*). Twenty-three examples of which two belong to Towns IV and V.

6. *Pins* with smoothly trimmed heads: no swelling (Fig. 18, *p*). Twenty-two examples, of which seven come from Towns IV and V.

7. *Needles* (Fig. 18, *q*, *r*, *s*, *x*, *y*, *z*). Thirteen examples: eight from Towns IV and V.

8. *Borers* with both ends pointed. Five examples: none from Towns IV and V.

The rarer types seem to be more evenly distributed: Fig. 18, *k* and *n* are from the Vth town, areas H and Θ. The little pronged fork, *l*, came from the surface half-metre of a test-trench dug on the N.-W. of the settlement which produced pottery of the third period.

The two carved tubes (*h* and *i*) recall others from Troy, Boz Ëyuk, Thessaly and the Cyclades [3]: *i* comes from Z, surface half-metre, *h* from E, at 5·50 m. They were probably handles and not, as was suggested in the case of the Chalandriane examples,[4] tubes to contain some sub-

[1] The functions of the bone tools are not always, of course, certain, but the nomenclature here followed is more or less that used in Wace and Thompson, *Prehistoric Thessaly*.

[2] Only the more or less complete examples were counted in the above tests: the statistics of the more fragmentary examples, however, agree.

[3] *S.S.* 7928–52. *Ath. Mitt.* 1899, p. 20, Pl. IV, 6; Wace and Thompson, *op. cit.* p. 72, Δ.E. p. 355; *Ἐφ. Ἀρχ.* 1899, Pl. X, 2–5.

[4] *Ἐφ. Ἀρχ.* 1899, p. 104.

FIG. 18.—*a–z*, BONE IMPLEMENTS. 1–10, MISCELLANEOUS

stance. The holes at the ends would have served for fastening the handle in place or for attaching a knob to finish off the handle-end.

Other objects included spoons or spatulae (*a*), worked birds' claws (*e*), pointed deer's horns (*b*), and a large bone hammer (from E, 4–3·5 m.), like those found in Thessaly,[1] probably for crushing corn.

Miscellaneous Objects.

Many of these are important, since they provide points of contact with other parts of the Aegean. No. 6, Fig. 18 (from E, 2·5–2 m.) is part of a terracotta hook or hanger which could be nailed in place through the two holes: parallels have been found at Troy (*S.S.* 8835) and at Hagios Mámas.[2] The cylindrical spool or pestle, No. 7, found in E between 5 and 4·5 m., has counterparts from Troy (*S.S.* 8433), Zigouries, Yiriza, Gonia and the Cyclades[3]: they were usually, like ours, made of some veined decorative stone. For the bead, No. 5, from E, 3–2·5 m., cf. *S.S.* 7744. This, however, is ribbed rather than incised, so too is an elongated bead from Yortan at Berlin. The hollow conical objects may be terracotta phalloi[4]: stone phalloi occur at Troy,[5] terracotta ones more widely, since they reached Bulgaria in the north and Platanos in Crete in the south.[6] Fig. 16, *i* (from Γ, 2·85 m.), though of terracotta, was probably a burnisher like the stone *S.S.* 8683, from Troy, and the similar stone from Vardaróftsa.[7] Fig. 16, *k*, may be a mould: *a*, a spit support.[8] There is one from Rakhmani not dissimilar though differing in profile.[9] Nos. 8–10 in Fig. 18 are perhaps *πεσσοί*, also found at Troy (*S.S.* 7676).

One object, the plastic fragment, Fig. 18, No. 1, and Fig. 16, *h*, from Z, 4–3·5 m., is, apparently, unique. It seems to represent a nose and mouth, but the mouth must be open for the edge here is rounded: there were also open holes to right and left of the nose. The reverse is smooth.

[1] Wace and Thompson, *op. cit.* p. 72; *Δ.Σ.* Pl. 47, Nos. 6–11.
[2] *B.S.A.* xxix. p. 148, Fig. 28, 10.
[3] Blegen, *Zigouriés*, pp. 196–8.
[4] From H, 5–4·5 m., Z, 4–3·5 m., Z, 4·5–4 m., p. 151.
[5] *S.S.* 7650.
[6] Childe, *Dawn*, p. 61.
[7] *B.S.A.* xxvii. pp. 32, 3, Fig. 16, No. 13. See also Tallgren, *Pontide Pré-scythique*, p. 118, p. 57, Fig. 40.
[8] The former from E, 4·5–4 m., the latter from Θ, surface half-metre.
[9] Wace and Thompson, *op. cit.* p. 43, Fig. 19.

The clay is reddish and there are distinct traces of red pigment on the surface.

SUMMARY.

Thermi was colonised from Anatolia some time before 3000 B.C., at a period when Anatolia itself was occupied by a people apparently uniform in culture and distinguished by a peculiar type of black pottery. The same race founded the first city of Troy and the first village on the Toumba of Protesilaos.[1] Thermi, however, was naturally in closer contact with the Cyclades and the other islands than were the inhabitants of Asia Minor: evidence of this contact is supplied by (1) the herring-bone decoration on the pottery, (2) the marble bowls and emery, probably imported, and (3)—possibly—the existence of one or two houses of the broader, less elongated type. Northern influence, on the other hand, is suggested by the battle-axes.

It is obvious that the inhabitants, like other Early Bronze Age folk, were neither uncivilised nor unaccomplished. They melted and cast copper, though they continued to use the bone and stone implements of their predecessors. They knew how to produce good red wares in an oxidising atmosphere, though the potter's wheel was not yet in use. Several domestic animals—sheep, cows, pigs and dogs—played their part in the life of the town. The main occupation of most of the inhabitants must have been agriculture and fishing: that various grains[2] were under cultivation is proved by actual remains. The women-folk practised spinning and weaving, and, to judge from their fires and ovens, must have been tolerable cooks. Their taste in dress is indicated by the terracotta figures Nos. 29/1 and 29/3, in hairdressing, by No. 30/31.

During the interval when Troy I was deserted and Troy II not yet built, Thermi continued to exist peacefully, shewing, however, certain curious features which were peculiar to this stage of its evolution. (Thermi III: bothroi and burnt earth areas.) It would seem that some of the well-known Anatolian sites came into existence about this time, such as the cemetery of Yortan in the Kaïkos valley and, a little later, the village at Senirdje.[3]

[1] The same race, at the same stage, perhaps, made the vase from Emed in Phrygia and the specimens from between Soma and Panderma in Mysia, *J.R.A.I.* 1903, p. 373, Fig. 4; *Ath. Mitt.* 1904, p. 287.

[2] The grains, etc., will be identified more exactly and published in next year's report.

[3] Frankfort, pp. 65–7.

One of the great periods of prehistory opens with the founding of Troy II, the expansion of the Anatolian culture over Macedonia, and its influence in Greece and the islands. To this stage belong Boz Ëyuk and Protesilaos III,[1] Thermi IV and V. Troy, with its extensive foreign contacts, absorbed various alien elements which are absent at Thermi and other provincial sites: moreover, it developed faster. The people of Thermi, however, were sufficiently advanced to acquire a knowledge of metals other than copper, since iron and lead were used for ornaments. They now abandoned the broader type of house which was occasionally built in period I, and used only the long narrow type which Troy II has taught us to associate with Asia Minor.

What caused the inhabitants to leave their home some time before the sack of Troy II and what was their subsequent history is a problem that can only be solved by investigation of the area outside the settlement and by further exploration of the island.

W. Lamb.

[1] Protesilaos IV is contemporary with the last stage of Troy II: see Demangel *Protesilaos*, p. 62. For Boz Ëyuk, see *Ath. Mitt.* 1899, pp. 1 ff. It is uncertain when this site began but obvious that it continued later than Thermi.

TWO PROTOPALATIAL HOUSES AT KNOSSOS

(Plates XI—XIV.)

An interesting feature of the excavations in the West Court at Knossos in 1930 was the discovery of two more walled pits or ' Koulouras ' lying between that already excavated and the great enceinte wall which was brought to light at the western extremity of the later Court (Fig. 1).

At the bottom of each of these Koulouras appeared walls and floors belonging to houses dating from the beginning of the first Middle Minoan period, which had been covered in at the time when the Court was extended and the Koulouras constructed—*i.e.* in Middle Minoan I. *b* or at the beginning of Middle Minoan II.

To discover the complete plans was unfortunately impossible. Not only was it too dangerous to dig down immediately behind the Kouloura walls—though by desperate tunnelling we were enabled to determine the limits of the larger rooms—but also the upper levels outside the Koulouras had been cut into by later houses whose foundations in some cases went down to neolithic earth. Enough, however, was recovered to shew that these houses were of great size and elaboration of plan, that they must have been built on terraces and that in one case the upper story was planned on the same lines as the lower.[1]

The House below the Central Kouloura (Kouloura 2).

In the hope of obtaining some accurate stratification, the eastern half only of the central Kouloura was excavated by half-metres; the exposed face of the western half was inspected and pegs were driven in to mark the actual strata formed by the layers of earth thrown in at

[1] This report must be regarded as purely preliminary—a mere statement of the results of the excavation which Sir Arthur Evans has generously allowed us to publish. The final word will be found in the fourth volume of the *Palace of Minos*, together with more accurate plans. In the absence of Mr. P. de Jong, the present plans are our own work and are rather to be regarded as diagrams.

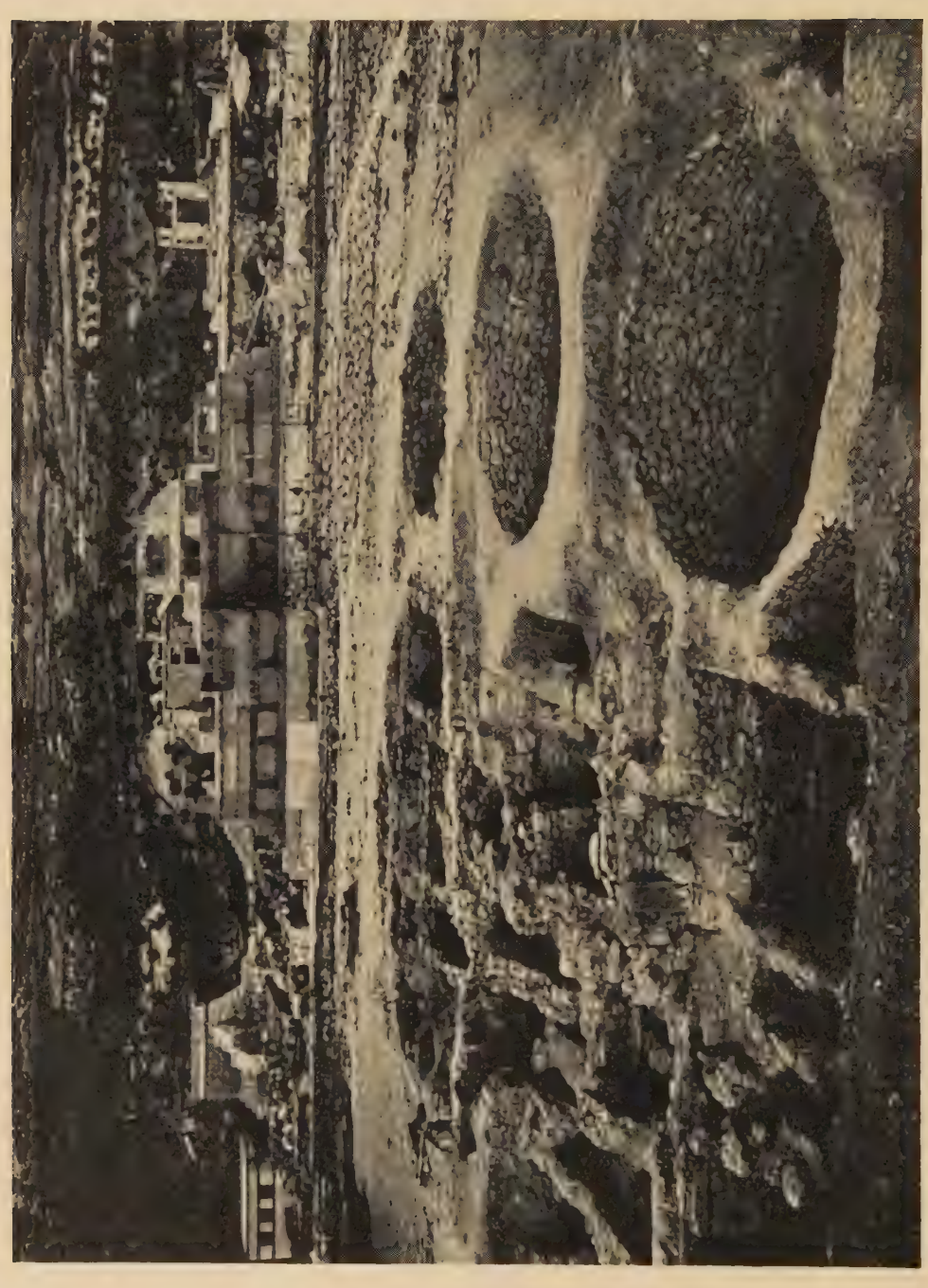


Fig. 1.—View of new Excavations in the West Court.

intervals to cover the rubbish.[1] At the bottom of the eastern half there suddenly appeared two steps of fine plaster, of a brilliant red, leading down westward, and it was with considerable impatience that we at last cleared the complicated strata of the western half.

The plan thus revealed consisted of two rooms cut down into the hard virgin soil and lined with rough masonry (Fig. 2).

The northern room was floored with the same red plaster as the steps

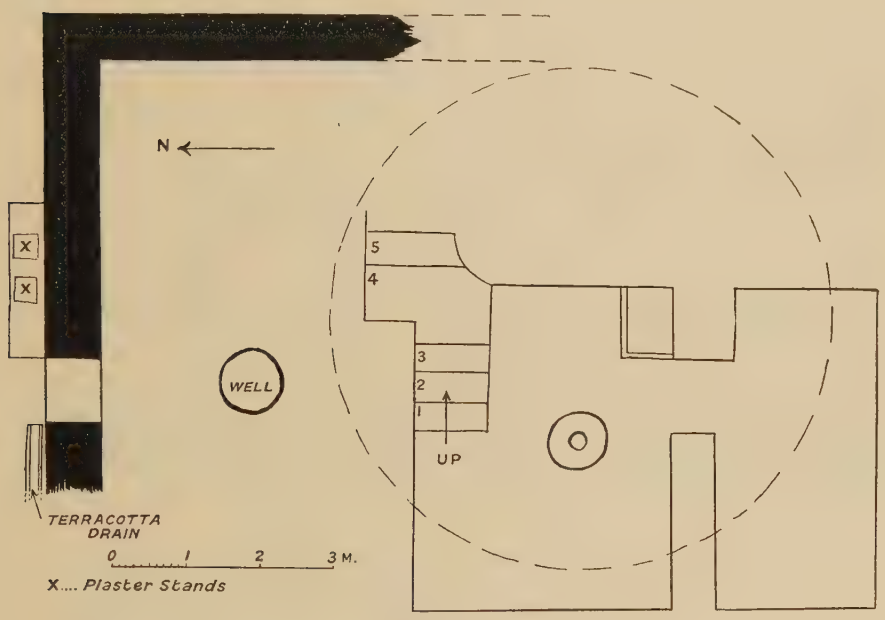


FIG. 2.—PLAN OF HOUSE BELOW KOULOURA 2.

which led down to it. In the southern room the red floor had been white-washed later. On the walls were fragments of similar plaster, red and white, while in the northern room a great twisted mass of plaster had evidently fallen from the ceiling. Beneath this mass lay a curious circular depression in the floor, lined with the same red plaster. Its shape with the central

[1] All efforts were unfortunately in vain. The contents had been tipped over from the north-east corner, with the result that half of a vase might be found in the first half-metre of the eastern side, while the other half was nearly at the bottom of the west. The pottery too, evidently came from other rubbish heaps which were at intervals transported here, *e.g.* M.M. I. *b* was found quite high up, while M.M. II. *b* was found quite low down. Even a stray piece of M.M. III. appeared. The mass was M.M. II., and that is all one can say.

hollow recalls that discovered below the later floor north of the Magazine of the Medallion Pithoi (*P. of M.* i. Fig. 234), which has been taken to be the stand for a large jar. Such an interpretation is rendered impossible in this case by the position of the depression almost in the centre of the room (see Pl. XI, No. 1). It is possible that a brazier stood over it and that it was purely for convenience in brushing up fallen ashes. More probably its object was to catch liquid offerings which might drip or be poured from some vessel above. The Minoans usually provided basins or channels to catch the blood of victims as in the Pillar Crypts of the Palace and in the Royal Villa, and the fact that this room too has the character of a crypt, being partly below the level of the ground, with steps descending into it as to a lustral basin, is itself in favour of such an interpretation.

The south-east corner of this room was partitioned off into a kind of tray or receptacle by two narrow ridges of plaster which ran out from the walls.

All traces of the upper walls had disappeared. It is impossible to say of what material they were. Evidently at the time when the Kouloura was constructed they were torn down, while earth was thrown into the rooms below to form a flat floor for the Kouloura. It is thanks to this that here, as well as in the other house, the pottery was entirely free from contamination by later deposits, the only intrusive matter in either case being a few sherds of the inevitable neolithic.

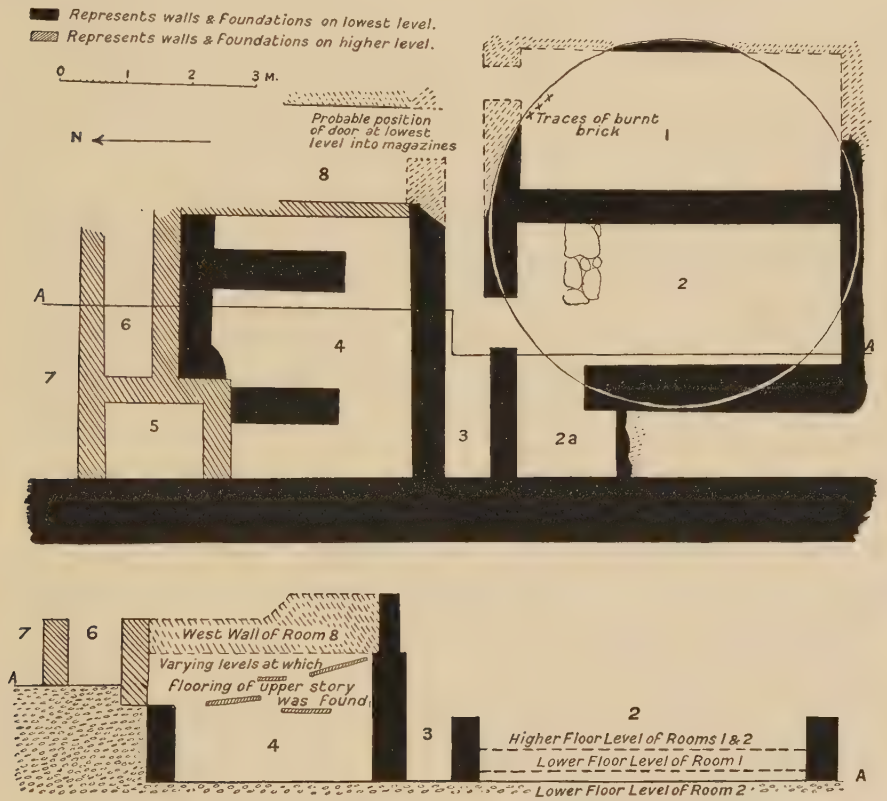
The absence of a few stones in the north side of the wall of the Kouloura (see Pl. XI, No. 1, to the left above the steps) led to the partial excavation of a well which had evidently supplied the house with water. To clear it completely was impossible owing to the danger of the whole wall's collapsing, but the pottery discovered to a depth of two metres was without exception M.M. I. *a*.

This well had been enclosed to the north by a long wall at a higher level running east and west, with a southward turn at its west end. An opening in the wall opposite the well probably led on to a stairway down, which has totally disappeared.

Outside the wall ran an open water conduit of clay (see Pl. XI, No. 2), while further east on a ledge of hard soil stood two low three-legged tables of red plaster (see Pl. XI, No. 3, a photograph taken during the excavation before the vertical face of the ledge was cleared).

THE HOUSE BELOW THE WESTERN KOULOURA (Kouloura 3).

The second house lay immediately within the great west enceinte wall. Two of its rooms lay at the bottom of the western Kouloura. Further north lay corridors and magazines as well as some rooms on a higher level (Figs. 3 and 4).



FIGS. 3 AND 4.—PLAN AND SECTION OF HOUSE BELOW KOULOURA 3.

The section here given shews plainly that rooms 1–4 must have been basements, while evidence of an upper story above the magazines, on the same level as rooms 5–8, was obtained from the remains of its floor, which had fallen to varying levels, as had that above corridor 3. This flooring was of red plaster, but we were unable to determine the exact method of its construction owing to the fact that the damp had rotted all the wood and mud of the ceiling and had left nothing but a plaster

shell. It seems probable, however, that wooden beams were laid across—for what appeared to be a ledge (much exaggerated in the section) was found in the south wall about two metres up—covering these would have been reeds or brushwood coated with mud and plaster.[1]

The stairs leading down to the basement were not found. If they were of wood they may have descended from the upper to the lower corridor at any point. If, however, they were of stone they must have descended from the east end of the upper corridor which it was impossible to excavate. At the foot of the stairs must be placed the entrance into the magazines (see Pl. XI, No. 4), which certainly extended east under room 8.

When the West Court was enlarged and the Koulouras constructed, only the upper stories of the northern rooms were destroyed, while the basements were filled up. Where the Kouloura itself was to be, however, they evidently destroyed even the basement walls down to the more solid foundations and rammed in earth to make a level floor. Fearing, however, that even so there was some danger of collapse they strengthened the wall of the Kouloura by thickening the base into a πατούρα or ledge.

Off the lower corridor (3) opened rooms 1 and 2. A peculiarity of these rooms was the presence in each of two distinct floor levels (see Pl. XI, No. 5). The upper floor level is shewn by the block left below the lump of plaster on which the basket stands; behind is the door into the corridor (the opening now strengthened by concrete).

The lower floor was formed by the hard neolithic earth; the later was 50 cm. higher, of good red plaster in room 1, of white in room 2. As is pointed out below, the pottery from both levels was identical, with the exception of four possibly earlier, yet still certainly M.M. I. *a*, forms from the lower floor in room 2.

It is noteworthy that the foundations of the walls of these rooms were well constructed of stone in contrast with those of the other house. A clue to the construction of the upper story or the upper parts of the walls was found in the section of the unexcavated end of room 1, below the wall of the Kouloura. It is possible to make out traces of what seem to be fallen mud bricks, which had been burned to a deep red

[1] This was the method employed at Tell el Amarna (cf. *J.E.A.* xv. p. 147). It would be even more suitable here.

(see Pl. XI, No. 5, immediately to the right of the dividing wall). The size of these bricks, if such they are, was 30 × 9 × 9 cm.

It is curious that there is no means of communication between rooms 1 and 2 except by the corridor. The little lobby (2*a*) I take to have communicated with a very narrow light-well which divided the house from the great wall. The north end of this was walled up in order to strengthen further the walls of the Kouloura.

THE POTTERY.

The pottery of the Kouloura houses is the largest deposit of the M.M. I. *a* period which has hitherto come to light, and the one which best illustrates the period from its early stages until the threshold of M.M. I. *b*.

An early phase of M.M. I. *a* has already been illustrated by the Vat Room deposit,[1] with its jugs decorated with a 'butterfly' pattern related to an E.M. III. design,[2] and its limited range of polychrome decoration.[3]

A comparison of the pottery from the Kouloura houses with that from the Vat Room shews that both belong to the same early phase of M.M. I. *a*. An example was found this year of the tall jugs with high shoulder, long narrow body and butterfly pattern in dark lustrous paint (Pl. XII, *b*, 19) of which nine examples came from the Vat Room. Other types common to both deposits are the saucer,[4] and dish in rough clay,[5] the handleless cup, plain [6] or with polychrome decoration,[7] and the tea-cup shape with rounded [8] or carinated [9] profile. The handleless cup, with or without pedestal, and the rounded tea-cup can be taken as criteria of M.M. I. date, so invariable is their appearance in M.M. I. deposits.

[1] The incised pyxis lids from this deposit have been regarded as an archaic feature since they resemble in type an Early Cycladic III class. Sherds of this burnished and incised type have been found elsewhere in M.M. I. *a* contexts (see this article p. 60 and Plate XII, *a*, 10; also p. 60, Fig. 5, No 8; and Palace Reference Sherd Collection, Knossos, AII_2 N.W. Kamares Area Pit, where the pottery was in general Middle Minoan with a little Late Minoan). They seem to be a survival of Neolithic technique, perhaps kept alive in the intermediate period by means of a medium other than pottery, *i.e.* wood, gourd or thick parchment. This is the suggestion of Sir Arthur Evans. (See *P. of M.* i. p. 177 and *P. of M.* iv. pp. 90, 91.)

[2] *P. of M.* i. p. 166. Seager, *Mochlos*, p. 85, M 80; Fig. 50, and Plate VIII.

[3] Mostly pedestalled cups of egg-cup shape with lines running spirally from lip to stem. *P. of M.* i. p. 168; Fig. 116 *a*, 7; and Fig. 120.

[4] *P. of M.* i. Fig. 118 *a*, 16. [5] *Ibid.* 18. [6] *Ibid.* 10. [7] *Ibid.* 7.

[8] *Ibid.* 20. [9] Cf. *B.S.A. Supp.* i. Pl. IV. f. and *P. of M.* i. Fig. 120.

As has been said above, the rooms at the bottom of the western Kouloura had each an earlier and later floor, about 50 cm. apart. There can be very little difference in date, as nearly all the vase types occurred both on the upper and the lower floors. But the pottery found above the upper floor illustrated the development of polychromy to advanced M.M. I. *a* style, whereas no polychrome sherd was found on the lower floor. On the lower floor four vases were found whose shapes were reminiscent of E.M. III. : a cup with a zigzag incised pattern on grey-black burnished clay (Pl. XII, *a*, 10); a small globular jug with cut-away spout, having a band of dark red, bordered by white lines, round the body on a dark slip and an incised pattern above this [1] (Pl. XII, *a*, 1); a

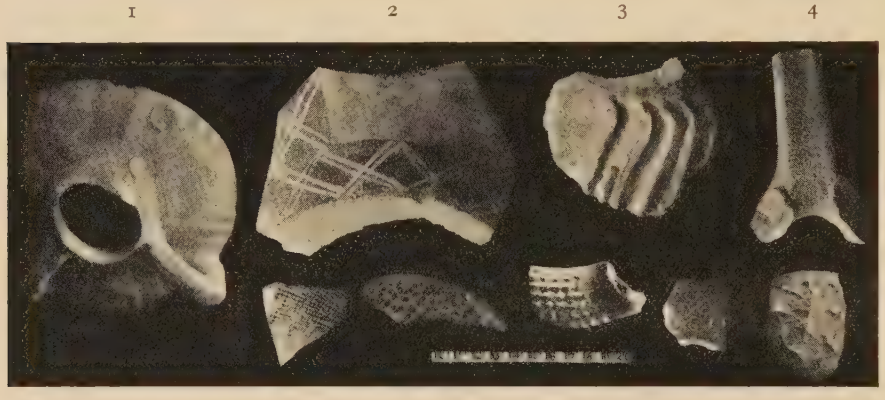


FIG. 5.—M.M. I. A POTTERY FROM THE CENTRAL KOULOURA.

handleless cup similar in shape to E.M. III. examples from Mochlos,[2] with white diagonal lines in pairs and white bands at foot and lip on a purplish-black slip (Pl. XII, *a*, 4); and an askos in burnished red clay recalling early Cycladic types [3] (Pl. XII, *a*, 12).

The rooms of the house below the central Kouloura also shew the development from early to mature M.M. I. *a* pottery, but without the help of different floor levels. From the wall north of this Kouloura came a sherd of black burnished clay with incised discs [4] (Fig. 5, No. 8).

[1] Cf. Seager, *Mochlos*, Fig. 13, 1, *b*. Xanthoudides, *The Vaulted Tombs of Messará*, Pl. XIX. 4274.

[2] Seager, *Mochlos*, Fig. 49, No. 57.

[3] Fragment of askos (E.M. I.). *B.S.A.* Supplement, Fig. 1. Cf. *Phylakopi*, Pl. IX. 11.

[4] Cf. a sherd in M.M. I. case in the Ashmolean Museum.

The pottery found in both houses represents a great number of vase types and a wide range within these types, forming what is practically a complete corpus of M.M. I. *a* pottery.[1]

Jugs with cut-away necks had various forms. As well as the tall narrow jug with butterfly design (Pl. XII, *b*, 19), a jug with very slender spout, narrow base and tall, high-shouldered body seemed an early shape, for two examples with their mottled surface recalled Vasiliki ware; one was of buff clay with a red burnished slip on the body and a buff spout with a red rim (Pl. XII, *b*, 6), while the other was a splendid type of early polychromy with its red body merging into black and its decoration of orange-vermilion circles outlined with white dots and with white crosses in their centres, and a band of vermilion outlined with white dots encircling the upper shoulder and looping round the handle, which like the spout was banded with white (Pl. XII, *a*, 2 and Pl. XIII).

Two examples of a jug similar in shape but with three handles had as a decoration vertical lines in groups of three and rows of bean-shaped markings between[2] (Fig. 5, No. 1). A type slightly less tall appeared with a buff slip decorated in lustrous red paint with broad horizontal and diagonal bands, with discs on the shoulder (Pl. XII, *b*, 15), and also in plain red, lustrous black or with a pale spout banded with dark paint and the body decorated with white or polychrome designs.[3] A jug with broader and shorter body and spout was found with various forms of decoration: a plain salmon-pink, burnished and pared, a buff slip with bands and discs in red or brown with geometric designs in white on black or purplish-red or brown on buff. Coarser examples of pale buff clay, sometimes with a dark rimmed spout and a band at the junction of neck and body, had clay knobs or dots of paint on the spout to represent rivets (Pl. XII, *a*, 14). Smaller jugs of ovoid shape, with a fairly fine buff slip, were more stereotyped in decoration. The most usual pattern was a broad leaf-like slash of paint drawn diagonally across each shoulder, with two white lines marking the centre of the leaf and a band round neck and lower body (Pl. XII, *a*, 13). Jugs of this type are common throughout the period and, together with the handleless cup, are invaluable for dating purposes. A

[1] The arrangement of such a corpus, with the addition of such types as were missing from this year's finds, we hope to produce shortly as an aid to excavators.

[2] Cf. a jug in the Ashmolean Museum, M.M. I. case, and *B.S.A.* Supplement, Pl. IX. *b*.

[3] Cf. *J.H.S.* xxvi., Pl. VII. Nos. 17 and 18.

squatter variety had in addition two 'rivet dots' at the base of the spout (Pl. XII, *b*, 10). Less often they appeared with a band round the spout and foot and three discs round the body (Pl. XII, *a*, 21). A small clumsy type with a spout resembling that of the butterfly jugs was built up spirally out of a strip of clay (Pl. XII, *b*, 8).[1]

A tall open-necked jug (Pl. XII, *a*, 17) of dark red gritty clay with grey biscuit and without slip had a wavy rim,[2] while another of squatter shape (Pl. XII, *b*, 3) had a broad pulled-out spout and a string of small bosses on the shoulder.

The handleless cup, with or without pedestal, occurred in great numbers and with a variety of decoration. Red lustrous paint, as well as black,[3] was used for the simple band on buff cups without pedestal (Pl. XII, *a*, 5, 7, 9). One example with 'rock work' barbotine decoration (Fig. 5, No. 9) recalled those from the well near the Court of the Stone Spout.[4] The white band on a lustrous black slip, occasionally with groups of white diagonal lines above it, was more usually found on pedestalled cups (Pl. XII, *a*, 15, 22). But both types of cup had varieties in finer fabric and with more elaborate decoration. Of those without pedestal, one very fine example curiously anticipated L.M. I. *a* motives in its design of purplish-red sprays springing from the base, each with a white central rib (Pl. XII, *a*, 8).

A tumbler-shaped example (Pl. XIV, No. 3) had orange-buff clay covered with a red slip which formed a broad band at lip and foot, and three discs on the body intersecting the upper band and edged with white dots: in the centre of each disc was a small orange-vermilion disc encircled by a double row of white dots.

Fragments were found of a high tumbler shape with narrow base and spreading rim.[5] These were polychrome; white on black; or mottled red and black.[6] A variation of the pedestalled cup with high slender stem, and another with a spreading body, had polychrome designs: horizontal or diagonal bands or lines in orange-vermilion and white on

[1] As also a variety of coarse cup (Pl. XII *a*, 20) which appeared in one, two and three tiers.

[2] A jug exactly similar in shape but with a band of incised decoration was found in the 'North quarter' of the city. *J.H.S.* xxvi., Pl. X. 8.

[3] *J.H.S.* xxiii., p. 166.

[4] *P. of M.* i. p. 175. Cf. examples in the Ashmolean Museum, M.M. I. case.

[5] *B.S.A.* Supplement, Pl. XI. *m*, and Pl. IV. *a*, a forerunner of M.M. II. shapes.

[6] *P. of M.* i. p. 169, Fig. 119 *a*.

purplish black or brown (Pl. XIV, 17) sometimes combined with dots or discs (Pl. XIV, 5).

The teacup shape appeared in great numbers with various modifications in shape and colour. A large rounded type, with flattened and grooved handle, was found in buff clay, slipped inside and out, with a thin red line at the lip (Pl. XII, *b*, 1). Rougher examples occurred in deep pinkish clay, and brown with a brownish-red mottled wash. A smaller cup with slightly incurving rim and grooved and flattened handle, sometimes high-swung, had a band at foot and rim and discs, sometimes painted over bosses, in lustrous red or brown (Fig. 8, No. 2), with a white line below the rim. This cup was sometimes painted inside with red or brown.

A large cup with small foot and a small handle high up on the body recalling an E.M. II. shape [1] had a broad band at the foot and a segment of a circle on each side below the lip (Pl. XII, *a*, 6). This shape was also found with a plain buff slip. Cups with small foot and wavy profile were plain purplish-black inside and out, pinkish-red inside and out, or light brown with a dark brown splash pattern (Pl. XII, *a*, 25).

A small charmingly shaped cup (Pl. XII, *b*, 9), with carinated shoulder,[2] flattened and grooved handle high-swung and a low foot, was of the same finely polished mottled red as the polychrome jug (Pl. XIII). Here too the decoration consisted of white dots, in three double arcs on each shoulder springing from the upper of two white lines round the body. A cup of similar shape had groups of short diagonal white lines on a purplish-brown to black background (Pl. XII, *a*, 11).

A very small rounded cup with a high-swung handle had polychrome linear designs on brown or black, though one example in lustrous brown on buff shewed a roughly drawn curvilinear pattern.

Small cups with straight or concave profile and thin ribbon handles [3] (Pl. XII, *b*, 7 *b*) had white lines and bands on black. One very thin sherd had orange-vermilion and white on black.

Many sherds were found belonging to taller and larger straight-sided cups [4] (Pl. XIV, 4). These cups were generally polychrome, with simple

[1] Seager, *Mochlos*, Fig. 22, vi. 6, and Fig. 23.

[2] Of similar design but less carinated shoulder. Seager, *Mochlos*, Fig. 18, iv. 2.

[3] Seager, *Mochlos*, Pl. VIII. and Fig. 28, xi. 13.

[4] Some shewed a carination near the base or rim of the cup. *B.S.A.* Supplement, Pl. IV. f.

linear designs as well as more elaborate combinations of zigzags (Pl. XIV, 2), dots (Pl. XIV, 6), rows of discs, separate (Pl. XIV, 4) or joined by diagonal lines (Pl. XIV, 15).[1]

Small spouted jars were found in a limited number of shapes but with a variety of decorations. Those with a bridge spout had either a slightly carinated shoulder and horizontal handles or a rounded shoulder and incurving rim. Plain colour washes were most common, occasionally with a trickle pattern caused by the running of the wash from the rim (Pl. XII, *b*, 13). But a very popular type of decoration consisted of groups of vertical or diagonal lines either in white on purplish-black (Pl. XII, *a*, 18) or purplish-red on buff (Pl. XII, *a*, 3), illustrating the contemporary development of light on dark and dark on light decoration.[2] A great number of sherds from similar jars had more elaborate linear designs in light on dark, dark on light and polychrome (Pl. XIV, Nos. 1, 7, 8, 9, 11, 14, 16, 18). An exceptional shape had a globular body and slightly outcurving lip with a handle from back to front like a basket (Pl. XII, *b*, 14). It was of smooth buff clay with a red-brown slip unevenly applied. A handle from such a vase was found with clay 'rivets' shewing how the metal prototype was attached to the rim (Fig. 5, No. 4).

A type of jar with 'side' spout like a bird's head and two horizontal handles[3] (Pl. XII, *b*, No. 16) was found with plain washes or with discs between diagonal bands in red on buff. One polychrome spout appeared, while several vases of this type had a strainer in the spout.

Sherds from open bowls were found. The centre of one was almost complete, shewing an elaborate geometric design[4] in orange vermilion and white on red-brown (Pl. XIV, 12).[5] Another sherd (Pl. XIV, 13) with the same colour scheme on a redder background has a design which recalls the discs and connecting lines, but here suggests stems and round buds or fruit. It is interesting as marking a transition between the

[1] This design is common. Xanthoudides, *Vaulted Tombs of Messará*, Pl. IX. 6861. Seager, *Mochlos*, Pl. VIII. xi. 16. Ashmolean Museum, M.M. I. case on sherd with incised band, and a jug in the possession of Sir Arthur Evans.

[2] *J.H.S.* xxvi. Pl. IX, 13, 14, and p. 248.

[3] A later form of those with one handle and a more projecting spout. *J.H.S.* xxiii. p. 167, Fig. 1, bottom row. For an E.M. form see Seager, *Mochlos*, Fig. 49, No. 74.

[4] The white paint had all flaked off, leaving the design, however, clearly traceable.

[5] For elaborate designs on bowls cf. Xanthoudides, *Vaulted Tombs of Messará*, Pl. IX. 6859. Platanos.

purely geometric polychrome designs that are typical of M.M. I. *a* and the stiff plant forms of M.M. I. *b*.[1]

Saucers were always in rough clay, but larger dishes with concave profile or straight outsloping sides and flat rim, though sometimes plain, were often decorated with a dark band at the lip or with more elaborate designs inside and out. In some cases the decoration shewed the blend of dark on light and light on dark [2] already met with on jugs (cf. Pl. XII, *a*, No. 13). The ground of the dishes was usually a smooth slip of pale buff, on which were broad bands or panels of purplish-brown or black or red lustrous paint decorated with a white geometric design (Fig. 5, No. 2).[3] Flat circular saucers [4] or small trays with a low vertical rim were represented by examples in rough or burnished red, in brownish-black or in black with a white line outside the lip. One fragment was found of a very big tray in thick red clay with horizontal handles; it may well have served as a hearth.

A small jar of squat amphora shape with two upsloping horizontal handles was decorated with diagonal lines and lattice in brown on buff (Pl. XII, *b*, 4).[5]

Several of the typical M.M. I. *a* sheep bells [6] were found with diagonal and horizontal lines in purplish-red on buff (Pl. XII, *b*, No. 17).

A number of store jars were found in the Magazines of the house below the western Kouloura.

A fine pithos (Fig. 6) of pinkish-red clay (1·08 m. in height), with very thin walls and four vertical handles below the rim was decorated with a rope pattern below the handles and a ' trickle motive ' caused by the running of the wash from the lip. Near the base was, curiously, a small round hole. Other fragments of pithoi shewed that rope patterns in horizontal or diagonal bands were common. One polychrome rim was discovered with orange-vermilion and white cross lines on black.

A jar with a high neck, round shoulder and two uptilted horizontal handles occurred with a yellowish-buff slip and red bands and arcs of

[1] *P. of M.* i. Fig. 133. Cf. also sherds in the Ashmolean Museum, M.M. I. case.

[2] Cf. *J.H.S.* xxvi. p. 253.

[3] The inner side had a white cable pattern and dots on black diagonal bands.

[4] Xanthoudides, *Vaulted Tombs of Messará*, Pl. VI. No. 5082. For pattern cf. Pl. IX. No. 6859; also Pl. XXXIV. No. 5051.

[5] Xanthoudides, *Vaulted Tombs of the Messará*, Pl. IX. 6860. Cf. Seager, *Mochlos*, Pl. VIII. and Fig. 28, xi. 16.

[6] *P. of M.* i. p. 175, Fig. 124.

circles (Fig. 7, top centre), and also in deep red clay with a creamy-white band at the junction of neck and shoulder.

A jar with straight outsloping sides, two horizontal handles, and a small spout pulled out from the rim (Fig. 7, top left, two views) decorated in purplish-red on buff shewed a most unusual feature. Near the mouth of the jar, a wide ledge, pierced with holes, ran all round the interior,

FIG. 6.—PITHOS FROM MAGAZINES OF HOUSE BELOW KOULOURA 3 (Ht. 1·08 m.).

leaving a large hole in the middle, which could be covered by a similarly pierced lid, on the removal of which the interior could be scoured.[1]

Many other store jars were found, both bridge-spouted (*e.g.* Fig. 7, bottom left) and with a circular spout (*e.g.* Fig. 7, bottom right). These

[1] Grapes, for instance, could be crushed in the upper part of the jar and the juice poured out through the spout. The interior would have to be cleaned out at intervals through the central hole, which is big enough to admit the hand. The latter is Mrs. Marinatos' suggestion.

Fig. 7.—Store Jars from Magazine of House below Kouloura 3.

were red, reddish-brown or buff; bosses and ridges occurred on the buff examples, and broad diagonal bands of black, intersecting at foot and lip, were a favourite design on those with a circular spout.

A jug with flared lip and no spout, in buff clay, had a purplish-brown wash half-way down the body and inside the lip and neck (Fig. 7, middle right). Sherds from similar jugs had a red wash or were of red clay, rough or burnished. One reddish-brown example had white lines round the base of the neck.

An incense-burner (Fig. 7, top right) was found with a dark red slip. Two circles in white surrounded the central hole. The rim, which originally projected from the edge, had been neatly chipped off.

The stem of a fruit stand with a decoration of vermilion and white bands on black [1] was found as well as fragments of frying-pans, tripods and low-legged tables [2] in both coarse and fine fabric.

A puzzling discovery was the side of a quadrilateral object not unlike a 'sheep bell,' but with no horns or holes (Pl. XII *a*, 26). The decoration consisted of vertical ridges of clay which, like the recurved rim, were dashed with red-brown paint.

As well as the sherds which could be assigned to clearly distinguishable types of vases, there were numbers, too small to be placed definitely, which illustrated some of the most important features of the M.M. I. *a* period, notably the prevalence of barbotine decoration.

A fragment from the shoulder of a spouted jar or jug was of the same pale buff rock-work as the sherd from a handleless cup (Fig. 5, No. 9).

Several sherds had prickle points in rows in brown (Fig. 5, No. 7) or black picked out with white dots.[3]

The base of a jug and another small sherd had rows of tiny rounded knobs.

Another base had rock-work in diagonal ridges, while a sherd from the shoulder of a cup had groups of crescent-shaped ridges in buff on a brown background.[4] There were very fine specimens of a delicate rock-work, very thin and irregular veins, dappled with brown splashes (Fig 8, No. 5). Rows of punctures (Fig. 8, No. 3) made in the soft clay with a point were found on several fragments, and on the necks of jugs at the

[1] Cf. fruit-stands from Palaikastro—shape as *P. of M.* i. Fig. 133 *e*, decoration as in example at Candia.

[2] Xanthoudides, *Vaulted Tombs of Messará*, Pl. XXXVII. 5074 from Porti.

[3] *Ibid.* Pl. V. 4971.

[4] *Ibid.* 4972.

junction with the shoulder were raised bands with diagonal cuts possibly representing twisted bands of metal.[1] The shoulder of a jug had a curious pattern of snake-like ridges in grey and black (Fig. 5, No. 4).[2]

Patterns not hitherto mentioned which occurred on small sherds include a very fine close lattice (Fig. 5, No. 5) in black on buff recalling that on E.M. II. jugs,[3] and a ' tiger-marking ' (Fig. 8, No. 4) of contiguous dashes of dark paint on buff.

To sum up the general characteristics of the pottery: the use of slip is almost universal. It varies from a hard, polished shell to a thin uneven wash. The slow wheel is already in use, the parallel striations on the bases contrasting with the concentric circles on bases cut from the moving wheel of the succeeding period.

1 2 3 4 5

FIG. 8.—POTTERY FRAGMENTS.

A great deal is still done by hand, witness the pinching in by the fingers of the stems of cups to form the base, and the paring of jugs, jars and cups.

Dark on light and light on dark decoration are found developing side by side and sometimes on the same vase. Where the background is dark it is rarely a true black or brown, but shews a great range of shades from deep lavender-grey to purplish-black or reddish-brown to purplish-brown (see Pl. XIV). This mixture and variation of colour is one of the chief charms of the pottery of this period. Geometric patterns are almost universal in the decorated pottery, and the linear patterns are of the same class as those previously described from M.M. I. *a.* deposits.[4] Chevrons and lattice patterns of different kinds with lines and bands are found in light on dark, dark on light and polychrome designs.

[1] Rivets indicating metal prototypes for such jugs were mentioned above.
[2] Cf. a jug in the Ashmolean Museum, M.M. I. case.
[3] Xanthoudides, *Vaulted Tombs of Messará*, Pl. XXVI. *b*, 4107. Koumasa.
[4] *J.H.S.* xxiii. p. 169.

The polychromy of the period covered by the Kouloura houses pottery in many designs and in its red and white on a dark ground recalls the incised patterns of neolithic pottery, with their white, or more rarely red, filling.[1] The designs combine lattices and dots with broad bands and lines, zigzags and cable pattern and discs. A development of the chevron suggests the stiffest of tree forms (Pl. XIV, No. 9). This suggestion of natural forms is stronger, however, in some other designs. A sherd in orange-vermilion and white on burnished red has a design of discs and curving lines which suggests globular fruits on stems (Pl. XIV, 13), while other examples in these colours have naturalistic sprays of leaves (Pl. XIV, 7). Few examples of this ware have hitherto been recorded,[2] but this year many were discovered ranging from the purely geometric to plant forms which suggest a date transitional between M.M. I. *a* and M.M. I. *b*, when stiff plant forms are typical.[3]

Polychrome pottery from the Kouloura houses has the characteristics of M.M. I. *a* noted by Dr. Mackenzie[4]—the geometric patterns, the orange-vermilion as contrasted with the deep Indian red of E.M. times, and the crimson and rose madder of M.M. II. and M.M. III., the varied shades of the background instead of the true black of M.M. II. New features are the quantity of sherds in orange-vermilion and white on red, of which one example only was illustrated by Dr. Mackenzie, and the beginning of the representation of plant forms, however stiff, which brings the later limit of our house down to the transition to M.M. I. *b*.

Small Objects.

I. *The House below the Central Kouloura.*

1. Head of a man in clay. Height 5·5 cm. He wears a low flat-topped head-dress, striped red and black. The face is left in the original buff clay, but the close-cropped hair is shewn in chestnut-brown. The neck ends below in a wedge to be fitted into the body. (See Fig. 9.)

2. Small object in clay. Diameter *ca.* 2·5 cm. It appears to represent a shallow dish with a hand and forearm lying in it. (See Fig. 10.)

3. Small object of unknown purpose in clay. Greatest length 4 cm. (See Fig. 11.)

[1] *J.H.S.* xxvi. pp. 244, 245.

[2] *Ibid.* Pl. VII. Nos. 3, 15, 16. Cf. also Xanthoudides, *Vaulted Tombs of Messará*, Pl. IX. 6861, 6862.

[3] *P. of M.* i. Fig. 133.

[4] *J.H.S.* xxiii. pp. 157 f., xxvi. pp. 243 f.

These three objects were found together inside the north-eastern angle of the wall north of the Kouloura.

FIG. 9.

FIG. 10.

FIG. 11.

CLAY OBJECTS.

FIG. 12.

FIG. 12A.

FRAGMENT OF PURPLE GYPSUM TABLE.

II. *The House below the Western Kouloura.*

1. Fragment of low table of purple gypsum with finely cut rim. The original diameter was 1·06 m. From the later floor in Room 2. (See Figs. 12, 12A.)

2. Two fine middle neolithic axe-heads, one of green serpentine, one of steatite. From earlier floor in Room 1.

3. Triangular piece of shell, fluted. Length 3 cm. For use as inlay. From later floor in Room 1. (See Fig. 13.)

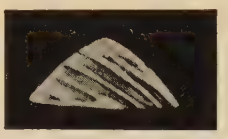


FIG. 13.—FRAGMENT OF SHELL.

4. Circular lid of Island (?) Marble. Diameter 3 cm. From upper story of Magazines (Room 4). (See Fig. 14.)

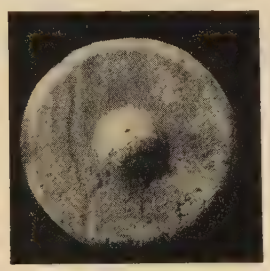


FIG. 14.—MARBLE LID.

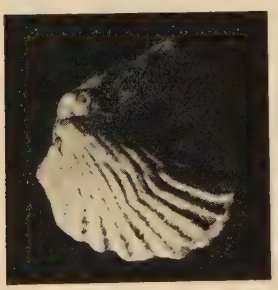


FIG. 15.—CLAY COCKLE-SHELL.

FIG. 16.—CARBONIZED CLAY LID.

5. Cockle-shell in reddish clay. Width 3 cm. Originally applied to a vase. From floor of Magazines (Room 4). (See Fig. 15.)

6. Circular lid of black carbonized clay. Diameter 7·5 cm. Angular incisions radiating from central boss. From floor of Magazines (Room 4). (See Fig. 16.)

7. Small clay figurine of cow or she-goat. Length 6 cm. Black markings on buff clay. From Room 2, earlier floor. (See Pl. XII, *a*, 19.)

8. Loom weight of rough clay. Diameter 10 cm. From later floor of Room 2. (See Pl. XII, *a*, 27.)

9. Part of clay drain-pipe. Diameter at mouth 10 cm. Similar to those found below the Corridor of the Draughtboard (*P. of M.* i. p. 141 *q.v.*). From Room 6. (See Pl. XII, *b*, 21.)

H. W. and J. D. S. Pendlebury.

Note.—During the season of 1931 when the houses had been cleaned and washed by the rain it was seen that the great West Wall actually cut through the South Wall of the magazines of the house below Kouloura 3. The probability is therefore that the whole house extended further west originally; but it continued in use after the construction of the great wall.

THE COPPER MINES OF CYPRUS.

THERE is no doubt that during the historical period Cyprus was a copper-mining centre of great importance [1]; not only does the literary evidence testify to this, but also the large slag-heaps found in many parts of the island.[2] It is not our intention, however, to treat of this period, but to examine how far Cyprus produced copper during the bronze age.

Prof. Gjerstad has, in his *Studies on Prehistoric Cyprus*, shewn that at least till the end of the bronze age there seems to be no racial change in the population, the cultural development being steady. During Late Cypriot II and III, however, Mycenean ware and its local imitations become so frequent that it is likely that Mycenean overlords were ruling in Cyprus; such a state of affairs fits in well with Mycenean history of this time, and probably now Cyprus began to be hellenised.

Thus there is no break at which we should expect mining to be introduced. If the people who first occupied the island in the bronze age were interested in it, they would probably have continued to mine throughout the prehistoric period. It now remains for us to discuss the evidence for mining here during the bronze age.

All the copper deposits except two lie near the edge of the andesite on the Troodos massif, and the area most thickly settled in the bronze age seems to have been the central plain, though sites are also known in other parts of the island. They are thus not far from the mining areas of Soli Tamassus and Amathus, which were the most important in classical

[1] Cf. Polyaen. 3, 10, 14; Plin. *N.H.* 11, 36; 36, 19; Steph. Byz. *s.v.* Tamassus; Hesych. *s.v.* *Σολοιτύπος*; also derivation of 'copper' from *Aes Cyprium*. Some gold and silver was also produced: cf. Str. 684, silver from Tamassus; Arist. *Fr.* 266, gold from Boucasa, site unknown. Cullis, *Metalliferous Deposits of Cyprus*, mentions fair quantities of gold and silver in the slime under the ore-body of Scouriotissa; cf. Rickard, *J.R.S.* xviii, p. 129, for Roman working in such slime at Rio Tinto. Mr. Kepler told me that there is gold and silver at Tamassus, and Buffon, *Histoire naturelle des Minéraux*, mentions gold from Cyprus in 1785.

[2] Marked on the Government Map of Cyprus.

times. But, curiously enough, there is no direct evidence for prehistoric mining yet known. Stone tools have been found at Scouriotissa, which unfortunately seem subsequently to have been lost; but if they were only hammers they may well belong to the iron age. A stone hammer is known from Kalavaso, and I picked up some primitive-looking sherds there; also the slag here contains no manganese, and is therefore thought to be early.[1] Another hammer is said to have been found at Mitsero, and I found some white iron-age pottery inside the mine. I picked up a rough bowl at Lythrodonda, with applied thumb-print ornament; but the shape and fabric look rather iron age than bronze age. None of these, therefore, is conclusive. At Agrokipia there are two slag-heaps, apparently of Hellenic date, to judge from the character of the slag, and a seventh-century terracotta has been found there. Most of the other mines in this region appear to be Roman.

There is a similar lack of material in other parts of the island. The mines near Marion do not seem to be early. At Troulli, not far from Larnaka, there is a small quantity of pre-Roman slag; while at Platanisso also there is no evidence.

By itself this lack of evidence might not mean very much. All the copper deposits in Cyprus have a considerable amount of gossan, and it would be natural enough, if the prehistoric people worked the carbonate ores near the surface, that the Romans should obliterate all traces of their activity and even cover their sherds and tools with gangue. But when we turn to the prehistoric sites, the same negative evidence presents itself, although in Greece and in many other parts of Europe in the bronze age, slag and other traces of early metallurgy on the sites are common.[2] Further, the Cypriot sites are usually on the top of a hill, where it would be easy to obtain a natural draught; and their position being presumably

[1] This information I owe to Mr. Kepler. Cullis, *loc. cit.*, gives analyses of pre-Roman and Roman slag from Scouriotissa, and six other tests are published in Terreil, *C.R. Acad. Sciences*, 1861, 53, 1275. The manganese percentage varies between 20 and 40, though Cullis shews that the pre-Roman slag has only 10·5%; only the slag from the summit of Troodos contains no more than a trace of manganese, and Oberhummer, *Das Insel Cypern*, suggests that it may have been re-worked, or it may be a refinery slag. Such quantities of manganese do not exist in the ore; cf. Cullis, *loc. cit.*, ore from Scouriotissa with ·01%; and Mr. Kepler thinks that *terra umbra*, which exists on the island, was added as a flux; others doubt this on metallurgical grounds.

[2] *E.g.* Athens, *Man*, 1931, 6; Larsa, Montelius, *Aeltere Kulturperioden*; Velem St. Veit, von Miske, *Archiv. für Anthropologie*, 1904, 2, p. 124; Tischhof Cave, Kyrle, *Oesterreichische Kunsttopographie*, 17.

chosen partly for defence, we should expect valuable material like copper to be worked in the village.

Again, no moulds of early date have yet been found in Cyprus. They may indeed have been always made of clay, but their frequency on other metal-working sites suggests that it was usual to have a stone mould, even if only for making the wax model from which the final mould was taken.[1]

These three pieces of negative evidence together suggest that the prehistoric Cypriots mined very little. We shall therefore do well to examine the grounds on which it has been assumed that Cypriot copper was an important factor in the bronze age. These are of two sorts, the evidence of bronze types and the literary evidence; for the argument from mining in the iron age to mining in the bronze age is invalid, as towards the end of the bronze age there was a considerable influx of people from the Aegean interested in mineral products and their exploitation.

With regard to bronze types, we must first give a word of warning. As Gjerstad points out,[2] many of these types are common to all the east Mediterranean, and it is rash to assume their specifically Cypriot origin. Especially is this the case with simple forms such as the flat celt and triangular dagger, and we shall therefore confine ourselves to the more distinctive types, the leaf-shaped dagger, the socketed axe, the knot-headed and eyelet pins.

The first of these is common in Cyprus, where it seems to last till the end of the bronze age. Childe in his distribution map marks one from south Caria,[3] but without reference; one is known from Troy II,[4] one from Aranyos in bronze,[5] three from Csorvas in Transylvania,[6] one from Stillfried in Lower Austria in a Monitz period grave,[7] one from Arad, and one from Locras on L. Biel.[8] The Amorgos example is different, but is paralleled from Troy II.[9]

The socketed axe is said by Gjerstad [10] to be a rarity in the Middle Cypriot period, but about five examples are known; one with a small tail,

[1] Pernice, *Jahresh.* 1904, p. 154; cf. especially in Bohemia, Richlý, *Bronzezeit in Boehmen.*

[2] *Loc. cit.*, p. 230. [3] *Dawn of European Civilisation*, p. 313.

[4] Schmidt, *Schliemannsammlung*, No. 5854.

[5] Hampel, *Z. f. E.* 1896, 75.

[6] Pulszky, *Kupferzeit in Ungarn*, p. 79.

[7] Menglin, *Wiener Praehistorische Zs.*, 3, p. 20.

[8] *Antiqua*, 1885, p. 107, Pl. 23, Fig. 10.

[9] Schmidt, *loc. cit.*, No. 5842. [10] *Loc. cit.*, p. 275.

clearly developed from this type, was found at Kyškovice and belongs to the Aunjetitz II period.[1]

The knot-headed pin, though chronological considerations make it probable that it spread from the south-east, is only common in Central Europe. One was found at Naqada, dated VI to XI dynasty by Petrie,[2] one at Phoenikais about Middle Cypriot I,[3] one at Troy of uncertain date,[4] some quite early in the bronze age at O Beba in Transylvania,[5] a very complicated one of Hallstadt date at Glasinac,[6] one at Roggendorf in Lower Austria[7]; but the most important one in Europe is that from a chalcolithic tomb at Velká Ves, which is not only the earliest known from Bohemia, but also the only one not of distinctly Bohemian type.

The eyelet pin is more widely distributed, and those with almond-shaped eye are considered to be earlier than those with a round one. In Bohemia they are mainly of the latter type, and belong to the Aunjetitz II period; one from Gurob is similar, and is dated to the XVIII dynasty.[8] In Cyprus the earlier type is common, and seems to belong to the Middle Cypriot period; and there were also many from Troy II–V.

Though these examples shew a well-marked route from Egypt via Syria, Cyprus and Troy to Central Europe, and seem to point to a Cypriot origin, we must remember that in the present state of archaeological exploration in the Levant it would be hazardous to locate the metal-working centre in the one place where most excavation has been carried out. This becomes more evident when we find certain other types belonging to this route which do not occur in Cyprus, such as torques with ring-ends, which are frequent in Central Europe and seem to originate in Syria,[9] and vase-headed pins, which are commonest at Troy, but can shew three examples from Bohemia and Moravia.[10]

[1] Schránil, *Studie o vzniku Kultury bronzové v Čechach*, p. 69.
[2] *Naqada and Ballas*, p. 48, Pl. 65, Fig. 19.
[3] Ohnefalsch-Richter, *Kypros*, p. 146. [4] Doerpfeld, *Troja und Ilion*, p. 356.
[5] von Miske, *Archiv für Anthropologie*, 1917, p. 253.
[6] Fiala, *Mitt. aus Bosnien*, i, p. 137.
[7] Karner, *Mitt. d. anthropol. Ges. in Wien*, 13, p. 221. [8] Petrie, *Gurob*.
[9] Childe, *Antiquity*, 1927, p. 79. They are thought to be copper ingots brought to Bohemia from the south; cf. Schránil, *loc. cit.* Mertins, *Schlesiens Vorzeit*, i, 7, p. 341, has analysed many from Silesia, and found much silver, which is not found in Cypriot bronzes, but might connect with Hungary, though the silver percentage there is lower and not common; cf. Loczka, *Magyar Tudományos Akadémia, Math. Term. Ért.* 7, 1889, p. 275. This assumes there is no copper in Bohemia, which is wrong; cf. the many mines in Waagen, Heiderich's *Wirtschaftsgeog. Karten und Abh.* Vol. X; but it is unknown, if they are earlier than early medieval. [10] Schránil, *loc. cit.*, p. 49.

Further, the types do not all belong to one period, nor, if the present dating for Troy and the Aunjetitz culture be accepted, can they all have been carried by direct trade from one centre. In the course of four hundred years many cross-currents may have appeared to upset the evidence.

Finally, the most specifically Cypriot type, with the exception of the socketed axe, would seem from the commonness of its occurrence in Cyprus to be the leaf-shaped dagger; but bronze is very rare there till the Late Cypriot period, and two such daggers from Cyprus which were analysed were of pure copper; while the one from Aranyos is said, probably on the evidence of its colour, to be bronze, and so was perhaps manufactured elsewhere.

Thus the type evidence is inconclusive as to the existence either of mining or of a metal-working centre in the bronze age in Cyprus, and this centre may well be found either in Anatolia or in Syria.

Of the ingots found in Cyprus, the bun-shaped type, which is common in Europe,[1] cannot here be dated with certainty to an early age, as the only one known was dredged up in Soli harbour, and probably belongs to the principal period of exploitation of Scouriotissa and Mavrovouni, in late Greek and Roman times. Another type, however, which has been compared with a double axe, belongs without doubt to the late bronze age, and has been thought to originate in the island. A number of these ingots have marks on them, including the Cypriot 'si,' but it is not certain that in the bronze age this sign belongs to Cyprus alone.

These ingots have been found at the following places:

Enkomi, 1 from the foundry site, not accurately dated.[2] 1 from another hoard found recently, and said to be Mycenean.

Adalia, 2 dredged up.[3]

Tylissus, 1 of Late Minoan date.[4]

Kato Zakro, 1 chance find; the site lasts from M.M. III*b* to L.M. III.[5]

[1] Cf. Roman ones from Anglesea, Evans, *Arch. Jour.* xxx, 1873, p. 63. The one from Cyprus was about 11¾ in. long, 7¾ in. broad, and 1¼ in. thick. It was rough on the flat side and smooth on the curved. It probably comes from the crucible, used in the second process of reducing the oxides, the first of converting the carbonates to oxides being done in the furnace.

[2] Murray, *Excavations in Cyprus*, p. 15.

[3] *Amtl. Ber. preuss. St.* 1913–14, p. 210.

[4] Hazzidakis, p. 56.

[5] *B.S.A.* ix. p. 276.

H. Triada, 19 from the palace, L.M. I or II.
Knossos, 1 fragment, L.M.[1]
Sitia.[2]
Mochlos.[2]
Aegina.[3]
Cyme, 19 dredged up near the harbour.[4]
Mycenae, 1 from the west part of the acropolis, found by Tsoundas, probably L.H.[4]
Sardinia, a considerable hoard from Serra Ilixi.[5]
Cannatello near Girgenti.[2]
Makarska, 1 in a small hoard.[1]
In the tribute of Thothmes III are depicted similar ingots brought by Syrians, Keftiu and Ethiopians. A mould for one is said to have been found at Zimbabwe.[6]
Six of these ingots have been analysed[7]:

	H. Triada.	Tylissus.	Enkomi.	Cannatello.	Cyme.	Serra Ilixi.
Cu ...	98·61	98·61	98·05	99·46	98·66	pure
Zn ...	} ·63	·63	·05	·16		
Fe ...	}	·63	tr.	·21		tr.
Pb ...	·03	·03	·31			
S ...	·44		·22	·04		tr.
As ...	tr.			{ ·04		
Sb ...				{		
Ag ...			tr.			
Bi ...			tr.			
Sn ...			none			
Ni ...			none			
Mg ...					tr.	

Now these ingots are not nearly so common in Cyprus as they are in Greece, and in Cyprus have only been found at a place which is far from the copper mines but much affected by Mycenean influence. They might seem to be a common stock of the Mediterranean cultures at this period. The evidence from the analyses is indefinite, as an insufficient quantity of metals has been tested, but it would seem to shew that the Enkomi ingot is from a different source from the others, owing to the very small quantities

[1] Evans, *Corolla Numismatica*, p. 357.
[2] *Reallexicon der Vorgeschichte*, *s.v.* Geld.
[3] Hazzidakis, p. 56.
[4] Svoronos, *Les premières Monnaies*.
[5] Pigorini, *Bull. Paletn. ital.* 1904, p. 91.
[6] Wainwright, *Liverpool Annals*, 1914, p. 24.
[7] Though the ingot from Tylissus is said to have been analysed, the remarkable similarity between its figures and those of the ingot from H. Triada is suspicious.

of zinc and iron and the larger quantity of lead. The absence of nickel and cobalt seems to separate it from Late Cypriot objects, while it is clearly distinct from Early and Middle Cypriot ones in the absence of arsenic.

The sudden appearance of these ingots in Late Minoan times suggests that they are due to the people in Greece who spread Cretan civilisation over the Mediterranean. Many bronze types also appear now in Cyprus, which nearly all have Aegean affinities and origin. But whether the Mycenean expansion brought prospectors to Cyprus who opened up the copper deposits there is a question which can only be determined by much more detailed analysis, and the uncommonness of these ingots in Cyprus might suggest the contrary. As to their origin we can only guess, because in many cases prehistoric copper mines in the Aegean area were completely worked out; but if they do not come from Crete itself, which is poor in metal, they may come from Mycenae, where much copper slag is said to have been found by Tsoundas and one piece by Wace.[1]

We must now turn to the literary evidence, for which we have two sources, Egyptian and Greek.

It seems agreed that a list of Cypriot towns is given in a XIX dynasty text. From earlier times, attempts have been made to identify Cyprus with either Alašia or Asi, which are mentioned by Thothmes III. Wainwright has contested these identifications,[2] on the ground that the chief reason for them is the supply of copper, and that there are also important copper mines, though less well known, in north Syria.[3] He is, however, unable to produce another name for Cyprus in the texts, and it is rather strange that it should not be mentioned.

Without discussing the geographical arguments, for which Wainwright

[1] *B.S.A.* xxv. p. 37. The information on Tsoundas' finds I owe to the hotel-keeper at Mycenae, who worked under him; I have, however, been unable to find any of this slag in the dumps, but several bits of malachite which he found are at Athens, National Museum No. 3250. Some bronze age axes were also found in a mine on Othrys, Bosanquet, *Rep. British Assoc.* 1905, sect. H., Athens National Museum 12445; Dr. Bosanquet tells me that they were given by Dr. Zeituniatis, who only owned Spartia and Gardiki, and as Gardiki alone is ancient, these axes must come thence, and so the mine was working in the bronze age.

[2] *Klio*, 1914, 1.

[3] Apart from the places he mentions, copper exists at Sheikh-Mokhsin Dag near Aleppo; Freck *Glueckauf*, 1915, 412. With regard to the χομτ ν βαρωτ of Roman times in Egypt, which is the same as χαλκολίβανος and aurichalcum, Lepsius, *Zs. f. aeg. Sprache und Altertumskunde*, 10, p. 116, suggests that βαρωτ points to Beirut, and Gardner, *J. Eg. Arch.* 1917, p. 35, that Bierudh of the Stele of Akhthoy of the early XII dynasty is the same as βαρωτ; this again would point to a Syrian source of copper.

makes a strong case, we may say that the export of lead and tusks from Asi do not favour the identification with Cyprus, while both would suit some place in north Syria.[1] It is said that concessions for lead have been issued in Cyprus, but its presence is doubtful;[2] and we do not hear of it in classical times, save in Dioscorides 5, 75.

If then Cyprus is not Alašia or Asi, there is strong negative evidence that the Cypriot mines were not of importance in the fifteenth century; and this must presumably apply *a fortiori* to earlier periods. Let us now turn to the Greek sources.

Two passages of Homer belong to the bronze age or the transitional period, and may be considered, therefore, as contemporary. The first is *Λ* 21, describing the fine shield given by Cinyras to Agamemnon; but this need only prove that good metal-work was being done in the Levant, and not that copper was mined in Cyprus; to Cinyras, however, we will return later.

The second, *α*, 184, is more important:

πλέων ἐπὶ οἴνοπα πόντον ἐπ' ἀλλοθρόους ἀνθρώπους
ἐς Τεμέσην μετὰ χαλκόν, ἄγω δ' αἴθωνα σίδηρον.

Temese has been identified with Tamassus in Cyprus and with Tempsa in Bruttium, and both claims have been argued at great length. In favour of the former there is the fact that Tamassus has copper, while Tempsa is said not to have it; but other authorities mention an old mine there,[3] or the copper may have been brought from further afield, from Etruria or Sardinia. In favour of the latter one may say that Homer's Temese would appear to be on the sea, which Tamassus is not; that its inhabitants are of foreign speech, which could hardly have been true of Cyprus after the Mycenean immigration; that iron is not known to have been worked west of Ithaca as early as this,[4] while it is known in Greece and Asia Minor. Thus the balance of probability is in favour of the identification of Temese

[1] Lead, for instance, is found in north Syria at Elma Dag, Cuinet, *Turquie d'Asie*, to say nothing of Bulgar Ma'den and Bereketli Ma'den, which are certainly early; *Reallexicon der Vorgeschichte*, *s.v.* Bulgar Ma'den; Sayce, *Antiquity*, 1928, p. 224.

[2] *F.O. Handbook of Cyprus*, 1920, p. 47; *Σακελλάριος*, *Κυπριακά* mentions lead between Acamas and Zephyrium and on Stavrovouni; cf. Roswag, *L'Argent et l'Or*.

[3] Montelius, *Chronologie der aeltesten Bronzezeit*, p. 152; Pauly-Wissowa, *s.vv.* Bergbau and Kupfer; cf. Bischoff, *Das Kupfer und seine Legierungen*, who says that the mines are still working. I feel, however, more doubtful after visiting the place.

[4] The Coppa Nevigata evidence is too confused to give certainty; cf. Mosso, *Mon. Ant.* 19, 1908, p. 311; Peet, *Liverpool Annals*, 1910, p. 122.

with Tempsa in Bruttium, and the passage has nothing to do with copper-mining in Cyprus.

With regard to later Greek traditions of the origin of copper-mining, Pliny [1] ascribes it to Cinyras of Cyprus. Of rival traditions, Diodorus [2] says that the Idaean Dactyls first worked copper at Aptera, and Strabo [3] that the Telchines discovered copper-working and migrated from Crete to Cyprus. Diodorus [4] puts the first copper-working in the Thebaid, and

Table of Analyses of Prehistoric Cypriot Objects.

E.C. III	Cu	Sn	Fe	Pb	As	S	Au	Ni	Co	P	Zn	Sb	Bi	Ag
Dagger [1]	97·23	tr.	1·32	·08	1·35	0	·28	0		tr.				
,, [2]	99·47	0	0		0									
E.C. or M.C.														
Tanged dagger [1] ...	98·4	0	·78	0	tr.	·31	·31	·15		tr.				
,, ,, [1] ...	99·47	0	·38	0	tr.	0	0	·08		tr.				
M.C.														
Flat celt [3]	97·95	·08	1·02		·49	·09					·12			
Dagger, Alambra [1]	58·98	13·18	2·9							1·69				
Tweezers [1]	97·4	0	·51	tr.	1·45									
,, [1]	93·42	0	1·53	0	4·7									
Spear-head [1] ...	86·73	11·59	1·0	tr.	tr.									
M.C. or L.C.														
Tweezers [4] ...	85·22	6·49	·18	·22	1·25		1·47	·01	·04		·05	·05	·49	0
Mushroom-headed pin [4]	73·08	9·92	·09	0	·45		·07	0	0		·07	·12	·3	0
Earring [4]	91·7	8·7	·14	·2	·71			0	·03		·25	·12	·12	0
L.C.														
Dagger [1]	88·77	8·51	·48	1·5				tr.	·3	tr.				
Ring, Phoenikais [1]	65·73	23·11	·62							·93				
Indeterminate														
Axe [1]	96·33	0	1·88	·47	1·27									

[1] Dussaud, *Les Civilisations préhélleniques.* [2] Hertz, *Rév. arch.* 1927, 1, p. 48.
[3] Montelius, *Chronologie der aeltesten Bronzezeit*, p. 153.
[4] These are new analyses of objects given to me by the kindness of Mr. Markidhis, Director of the Cyprus Museum; the facilities for analysis were afforded by Sir Charles Martin of the Lister Institute.

Stephanus of Byzantium [5] ascribes its invention to the Curetes at Aedepsus.[6] These traditions are clearly vague and little can be built on them, but on the whole the claims of Crete seem stronger than those of Cyprus, especially as they offer an explanation of the opening of the Cypriot mines.

[1] *N.H.* vii, 56, 195. [2] v, 64, 5. [3] 654. [4] i, 15, 5. [5] *s.v.* *Αἰδηψός.*
[6] This probably refers to an important copper-working centre near at Choeronisi, which goes back to the beginning of the iron age.

The analyses of prehistoric Cypriot objects are few in number. Some others have been made to prove that tin-bronze was at least unusual until Late Cypriot times, but as no other metals were tested for, these are useless for our purpose.

It emerges from the table that Early and Middle Cypriot are sharply separated from Late Cypriot by the presence in some cases of considerable quantities of arsenic, which suggests connection with Egypt.[1] Zinc is generally absent, though it was almost certainly present in some of the ores worked in classical times.[2] Phosphorus is a common impurity,[3] and, further, is seldom tested for, so that its presence tells us little; and the other impurities are also common except gold, which is interesting, as it suggests the use of a sulphide ore; it might exist in an exposed oxidised ore-body, but this is not characteristic of Cyprus, where all the known ore-bodies are of some depth.[4]

There are few ore-analyses from Cyprus. Cullis [5] publishes one from Scouriotissa, where the ·02% of arsenic might point to the source of the arsenical copper, save that this appears very early in Egypt in the I dynasty, when Cyprus can hardly have been working.[6] Prof. Desch of Sheffield kindly made some analyses for me, but he was interested only in the nickel percentage, and so these again cannot be used for comparison.[7]

[1] The source of this arsenical copper is uncertain; Berthelot, *C.R. Acad. Sciences*, 1896, 2, p. 365, denies the presence of arsenic in the ore at Sinai, but Hume, *Topography and Geology of S.E. Sinai*, says that some trial smelting of the Wadi Nasb ore in 1822 suggested by the smell the presence of arsenic, and ·45% occurs in the slag from Serabit-el-Khadem; Sebelien, *Ancient Egypt*, 1924, 6. A Cycladic saw from Aila on Naxos, Zenghelis in *Mélanges Nicole*, p. 603, Stephanos, *Congr. intern. d'Arch.* 1905, 1, 216, contained 2·62%, and Zenghelis says that the copper was rubbed with arsenic to give it a white shining surface.

I doubt if Sinai was the only or even principal source of Egyptian copper in the early periods. The calculations of Lucas, *Jour. Egypt. Arch.* 1927, p. 162, seem dangerous, as he probably over-estimates the depth of the slag-heaps and the richness of the ore, which is poor now; there is no evidence that the piece of hydrosilicate containing 40–50% copper from El Amrah comes from Sinai; Berthelot *Ann. Chimie et Phys.* vii, 11, 47. If malachite was used for painting the face, this would account for extensive workings without any metal to shew for them.

[2] Cf. especially Dioscor. v, 74, 75, which can refer to nothing but zinc.

[3] Reyer, *Jour. f. prakt. Chemie*, 1885, p. 258, suggests that phosphorus was introduced into bronze by secret magical processes, such as blood or bones being put into the crucible.

[4] Cullis, *loc. cit.*, mentions a slime consisting of soluble salts of iron and copper with some gold at Scouriotissa, but it is under the ore-body. [5] *Loc. cit.* [6] *E.g.* Hertz, *loc. cit.*

[7] The figures are: Mitsero, Cu 2·1%, S 6·29%, Ni none; Scouriotissa, Cu ·56%, Ni ·86%, S 4·31%, mainly limestone; Scouriotissa, Cu 2%, S ·22%, Ni none, mainly silica; Limni, Cu traces with no Ni; Kalavaso, Cu 16·58%, S 7·36%, Ni none; Kalavaso, Cu 9%, S ·43%, Ni none. I also have made three rough analyses of ores from Cyprus, owing to

We have thus been able to contend that the Cypriot copper mines were hardly worked in the prehistoric period. Apart from the negative evidence of the mines themselves, we have seen that the literary evidence is doubtful, and that it is by no means proved that the typological arguments point to Cyprus as a source. It seems that the bronze age people were interested in agriculture and not in mineral exploitation.

Whether Mycenean prospectors opened up the mines, or whether this was due to the more wholesale Greek immigration at the end of the bronze age, it is difficult to say. There are, however, some considerations which might suggest rather the former view. Cinyras, who, as we have seen, is said to have invented copper-mining in Cyprus, was a contemporary of the Trojan War, though he may have been elderly at the time;[1] so that Greek tradition apparently put the opening of the mines in the L.H. III*b* period. The ox-hide ingots which we have discussed might possibly point in the same direction. Also several Cypriot cylinder seals of L.H. III date are composed of a regulus consisting mainly of cuprous sulphide, which, though it might be a mineral, might also be derived from smelting a mixed charge of oxides and sulphides;[2] this then might be evidence of copper smelting in the island at this time, save that some so-called sling-bullets from Troy, probably of much earlier date,[3] seem to have been composed of the same material, though at that time evidence for mining in Cyprus fails. The knowledge and export of this regulus then is perhaps part of the common stock of the trade route from the Levant across Anatolia.

Note on the Closing of the Mines.

It seems generally agreed that the mines closed down in the Roman period. Dioscorides and Galen describe them as still working, and I have found Roman sigillata on the slag-heaps of Lythrodonda, Mitsero and

the kindness of the Chemical Department of Queen's University, Belfast, who gave me facilities; in pyrite from Kappedes and Lefkara I found respectively ·24% and ·32% Pb but no Cu, Sn, Sb, As; but in ore from Mitsero I found Fe 36·51%, Cu 2·52%, Zn ·46%, Sb small quantities, no As, Pb, Ag. The last is interesting, as it shews the source of some of the Cypriot cadmia.

[1] Homer, *A* 20; Apollodorus, *Epit.* 3, 9, says that an embassy of Greeks was sent to persuade Cinyras to join the war, and that he promised to send fifty ships; we do not hear that he promised personal service, so he may have been rather old for such a long journey.

[2] Church, *Proc. Soc. Antiq. London*, ii, 19, p. 131.

[3] Schmidt, *Schliemannsammlung*, Nos. 6168, 6169, 6901.

Kalavaso, and a piece of poor glazed ware which might be either late Greek or Roman at Mathiati; it would be difficult to date accurately small fragments of Roman pottery in this region, but it is perhaps unlikely that they are as late as 310, when some have tried to make out from Eusebius [1] that the mines were still working; he, however, only says that Christians who had been condemned to the mines in Palestine were transferred to Cyprus, though he does not specify for what purpose.

It is generally thought that the mines were quite untouched until their recent reopening. At Lythrodonda, however, there is much slag, and associated with it a site which contains later pottery; among the pieces that I picked up were a jug handle which looks fresh and fairly recent, a sherd with bands of fine parallel incisions, which are certainly not used earlier than late Byzantine times and I suspect are later, and a piece of blue-glazed ware which does not look modern but rather Turkish. We may perhaps connect this with the notice in Buffon,[2] that in 1785 Cyprus was producing gold, as I think that all these sherds might be as late. The slag-heap here, however, is far from any mine, and it may be that some old slag was being resmelted, in the same way as in the sixteenth and seventeenth centuries the Turks resmelted a great deal of old slag at Madenokhorio in Macedonia.

O. DAVIES.

[1] *Mart. Pal.* 13, 2.

[2] *Histoire naturelle des Minéraux.*

ΕΩΘΙΝΑ ΑΝΑΣΤΑΣΙΜΑ

THE MORNING HYMNS OF THE EMPEROR LEO.

Part I.

(Plates XV, XVI.)

CONSPECTUS DISSERTATIONIS.

Carmina Matutina, sive ἑωθινὰ ἀναστάσιμα Leonis Imperatoris cum musica e compluribus codicibus exscripta hic edidimus. Notas Rotundas (s. Hagiopolitanas) iam XII saec. inventas esse manifestum fit. Omnia fere exempla carminum Sticherariorum, his notis a XII ad XVII saec. expressa et in variis libris servata, adeo inter se congruunt, ut cuncta ab una origine facillime deducenda sint. Fieri igitur potest, ut auctores harum notarum textum quoque carminum sacrorum ipsi ordinaverint et ubique eosdem numeros cantoribus graecis ipsi tradiderint. Inter XII saec. et vitam Leonis nulli populorum motus, qui artes liberales et studia humaniora everterent, orti sunt. Facillime ergo credas non modo verba sed etiam numeros carminum fere eadem, qua facta sint, forma ad nos pervenisse.

In ipsis notis enucleandis, eadem, qua prius, ratione utimur. Multa, quae de sonis initialibus octo tonorum tunc conieceram, iam maiore experientia confirmata sunt.

Ante finem XVII saec. novis numeris carmina vetera praecentores ornabant: quod et XVIII saec. praesertim Constantinopoli amplius factum est. At Chrysanthus et socii, novarum notarum inventores, raro cantus e codicibus exscribere dignati, aut propria memoria freti carmina cum notis musicis prelo tradiderunt, aut, quaecumque non tenebant, novis numeris saepius instruxisse videntur.

ZUSAMMENFASSUNG DES ARTIKELS.

Die Auferstehungslieder Kaisers Leo des Weisen sind in vielen mit Notenschrift versehenen HSS erhalten, die bei Vergleichung eine auffallende Ähnlichkeit in den überlieferten Melodien aufweisen. Es ergibt sich daraus, dass die Noten vom 13. bis zum 17. Jahrh. mit unbedeutenden Abweichungen immer wieder abgeschrieben wurden. Ferner ist es aus kürzlich untersuchten Patmos-HSS jetzt sicher festgestellt, dass die sog. runde Notenschrift schon im 12. Jahrh. erfunden wurde—also vor dem Verfall des byz. Reiches. Eine Probe der Auferstehungslieder in der frühbyz. Notation (Coislin-System)

zeigt eine allgemeine Ähnlichkeit mit der späteren Form. Wir dürfen also wohl annehmen, dass eine ununterbrochene Überlieferung von der Kompositionszeit bis zu der autorisierten ' runden ' Niederschrift bestand. Die allgemeine Ähnlichkeit der Melodien gilt für alle sticherarischen Hymnen, so weit Vergleiche schon gemacht worden sind. Nur bei einigen Hirmen sind grundverschiedene Melodien zu demselben Text im Mittelalter vorhanden. Im 17. u. 18. Jahrh. wurden die noch erhaltenen Melodien grossenteils neukomponiert, was im 19. Jahrh. in der Chrysanthischen Notenschrift abermals geschah. Da eine genaue Entzifferung des früh-byz. Notensystems noch unerreichbar scheint, so gewinnt die ' runde ' Notenschrift die Hauptbedeutung für das Studium der byz. Musik.

THE Emperor Leo VI. (886–911) was not only a patron of letters and the arts, but also himself an author and poet. Though called The Wise or the Philosopher in the Middle Ages, he has won little esteem from modern [1] historians, who regard him as a man weak in mind and body, a pedant, a maker of tedious sermons and prosaic hymns. The kindest and perhaps the most reasonable verdict is that of N. Popov,[2] which may be summed up as follows :

' Leo is an amateur : he has no new ideas, nor any profound exposition of old ones. He can speak correctly and to some extent capably on

[1] Krumbacher, *Byz. Literatur*, pp. 677, 721, etc. (*v.* index). Gibbon, *Decline and Fall*, c. 48 (cf. Bury's notes, vol. V. p. 206). Neale says of the Morning Hymns, ' They are better than might have been expected from an Imperial author, and the troubler of the Eastern Church by a *fourth* marriage.' (*Hymns of the Eastern Church with Music*, p. 144.) W. Christ and Paranikas, *Anthol. graec. carminum Christianorum* (where a list of his hymns is given) : Primum carmen Anacreonteum, quod imaginem terrorum extremi iudicii vividis coloribus depingit, elatum quiddam et fervidum spirat; reliqua quamquam humi repunt, tamen ieiunis carminibus imperatorum Constantini Porphyrogennetae et Justiniani, quos collegas in poeticis studiis habuit, longe praestant. (This refers to the *Exaposteilaria* of Constantine, given by W. Christ, p. 110.) A fuller account of Leo's hymns in Papadopoulos, G.I. : *Συμβολαὶ εἰς τὴν ἱστορίαν τῆς παρ' ἡμῖν ἐκκλ. μουσικῆς*, p. 249.

[2] Popov, N., *Imperator Lev VI, Mudry* (Moscow, 1892, in Russian). Diehl, *L' Empire byz.*, p. 93, gives credit to Leo for his determination to secure the throne for his own dynasty and thereby save the Empire from confusion.

RECENT PUBLICATIONS. *Echos d'Orient*, XXXII, No. 156 (1929), 448, gives a summary of recent articles and books on Byz. Music.

E. Wellesz in *Zeitschr. f. Musikwissensch.* XI (1929), 513 (*d. Byz. Lektionszeichen*). The best work on the Ecphon. signs since Thibaut.

Madame E. Sikelianos, *Musique*, II, No. 6 (1929), 789, and No. 7, 852, gives a popular account of the music used in the *Prometheus*, as played at Delphi : also a somewhat confused statement of the Stenographic Theory. (We greatly admire those enthusiasts, like Prof. Psachos, who are trying to revive Modern Greek folk-music, and wish them all success. But the Stenographic Theory, which no palaeographer in W. Europe accepts, can only be a hindrance to their designs.)—My short article on ' Byz. Music ' in the new *Encycl. Britannica*, 1930.—Egon Wellesz, *Byzantion*, vol. 5, 1929–30, 556 (refutation of Steno-

all subjects. In spite of his own mediocre ability he did good service by encouraging learning and literature in the Empire.'

Leo's claim to wisdom rested mainly on his oracular or prophetic utterances;[1] but we are now dealing only with his hymns, of which the Anacreontic ode on the Last Judgment is the most ambitious. In the use of such a form Leo was following an early Christian tradition, perhaps founded by Synesius of Cyrene and adopted by Gregory Nazianzen, Sophronius and Elias Syncellus. The pagan but post-classical *Anacreontea* must have been very popular in the Roman age to have served as models for Christian poets; and there was nothing incongruous in the composition even of penitential hymns in a metre which seems to us only fit for love and wine. The change from quantitative to accentual scansion was only a technical detail, Sophronius, whose lines can mostly be read in either way, serving as a bridge between the two methods. Leo and the patriarch Photius pay no regard to quantity; but the latter is rather more careful about accentual correspondence.[2]

Although Leo's ode on the Last Judgment has been deservedly admired, we cannot for a moment place it, any more than the also admirable Canon of St. Theodore of the Studium,[3] beside the poem of Romanus on the same subject.[4] Granted that Romanus, the gentlest of men, was not at his best amid the fires and thunders of doom, or even that to some readers the smoother and more regular form of Leo's verse may be more acceptable, yet we must claim that here as everywhere the Prince of Hymnodists was supreme. English sacred poetry has suffered few greater losses than this, that Neale, who could interpret Byzantine hymnody to his countrymen, hardly concerned himself with the work of Romanus.[5] Leo's other poems, being intended for use in the Church's

graphic Theory). There is a passing reference to Byz. music in Byron, J., *The Byz. Achievement* (*v.* index, *s.v.*)

The following are more general. *Musical Quarterly*, Oct. 1929, Vol. XV, No. 4, 541–46, *Medit. Folksong* (notices Greek exx.), by J. Tiersot; *Music and Letters*, Vol. X, No. 4 (Oct. 1929), *Gk. Music* (ancient), by R. P. Winnington-Ingram; *Speculum*, Oct. 1929, 390, *The Organ in Early Middle Ages*, by Helen R. Bittermann.

[1] Krumbacher, *op. cit.* p. 328.

[2] Most of the Christian Anacreontic hymns are in the *Anthologia* of W. Christ and Paranikas, pp. 44–51.

[3] For Sexagesima Sunday. Neale, *op. cit.* pp. 94–103.

[4] Krumbacher, *Studien zu Romanos* (with text), p. 163.

[5] Probably because few of his hymns are in the service-books. The legend about Romanus is given by Neale, *Hist. of East. Ch.* Pt. I, 2, 843. Cf. my *Byz. Mus. and Hymnogr* p. 11 ff.

services, were composed in the usual rhythmical prose. Among these only the Morning Resurrection Hymns shew any originality or distinction. Popov rightly praises the seventh and tenth hymns; and we must admit that all are an improvement on the older specimens. The Resurrection Verses of Anatolius are more lyrical in form but entirely commonplace, and shew no development of the guiding thought.[1] Leo, by supplying a narrative element, has at least brought us nearer to great things; and if at times he does no more than paraphrase the gospel story, yet here and there we see a flash of insight or a picture boldly drawn, which testify to a talent not great indeed but still worthy of respect.

Everything known about Leo leads us to suppose that he or his musical collaborators [2] composed the tunes for the Resurrection Hymns. We are told by his son Constantine Porphyrogenitus that Leo used to hold a feast in the Palace at Epiphany, when the clergy and choir from St. Sophia's were invited; and these with the choir of orphans (who were maintained by the Emperor) sang under Leo's own supervision. 'With the consent and blessing of our Most Holy Patriarch, they begin the noble praise, acceptable unto God, which was composed by the voice of our most wise Sovran, Leo, elect of God; and by his own utterance and most skilful direction, all those that sit at table sing and chant in accord the holy hymn that fell like honey from his lips for all his faithful subjects.' [3]

We cannot, of course, prove that the tunes of Leo's own time are extant in any manuscript. The earliest surviving Byzantine manuscript with music was written in the tenth century; and we do not know how long the neumes had already been in use. But it is reasonable to suppose that their introduction was part of the general revival of learning under the Macedonian dynasty, one of the leaders being Leo's tutor, the great scholar and patriarch Photius. We can further assert that no sharp division existed between the earliest (or Palaeobyzantine) neumes and the various stages that preceded the Round Notation. In the last of these stages (the Coislin System) a setting of Leo's hymns has been preserved;

[1] *Anthologia*, p. 113. A list of Leo's hymns is given in the index, p. 265.

[2] According to one tradition the composer was John Glycys, said to have been a contemporary of Leo. (Papadopoulos, *op. cit.* p. 255). But Gastoué places him in the fourteenth century.

[3] Const. Porph. *de Ceremoniis*, Lib. II, c. 4 (438). No hymn of Leo for Epiphany is extant.

and on examining a specimen we found no serious difference between the general structure of the melody and the corresponding version in the Round Notation. It is therefore quite possible that we may be in possession of something not far removed from Leo's original.

The Manuscripts.

1. Atheniensis 974. A vellum codex in the National Library at Athens, large 8vo. The beginning is lost. This MS. was a complete Sticherarium, but only pp. 1–38 contain the hymns for fixed days, the Triodium beginning on p. 39. The Octoechus begins on p. 165 : (every page is numbered). Date—probably early fourteenth century. Some variants in red and medial signatures were added by a later hand, perhaps about 1350. The writing is small and rather cramped, faded in places, but mostly clear and accurate. This MS. is the foundation of our musical study, as it contains Leo's Resurrection Hymns complete, with only one or two possible errors. I have taken bromide negatives (or 'rotographs') of the pages used, but had not the means of making plates for reproduction.

2. Cantabrigiensis, Trinitatis 256 (B. 11, 17). Paper, probably late fourteenth century.[1] Fortunately several of Leo's hymns are clear and well-preserved in this MS.; and we reproduce four pages.[2] The readings do not differ materially from Athen. 974, but the proportion of errors and doubtful passages is greater. A few variants and some medial signatures have been added by a not much later hand.

3. British Museum, Additional Manuscripts, 27,865. Vellum : date before 1358. This MS. is carelessly written, faded and discoloured. The text does not differ much from the other two MSS. The neumes are often written over the wrong letters or piled up for want of space. A difficult and tiresome MS. to read. I have already published a facsimile of our last hymn from this MS. and shall use it in the second article.[3]

4. Bibl. Ambrosiana, Milan, 733 (O. 28 sup.). A paper MS. of the early fifteenth century, which, although inferior to the other three, has some noteworthy variants. As the text is in general agreement with

[1] Cf. *B.S.A.* xxiii. 201.

[2] My best thanks are due to the Librarian of Trinity College and to the Sub-Librarian (Mr. C. Hurry) for much kind help afforded to me in the study of this MS.

[3] For the British Museum MSS. cf. my article *Mus. Antiquary*, 1911, 83–85.

our other MSS., I have used it chiefly where the passage was otherwise obscure.

5. Sinaiticus 1242. Octavo, vellum. Linear (Coislin) Notation, twelfth century. I have a photograph containing the sixth hymn in our series.

6. Sinaiticus 1244. Octavo, paper: probably early fourteenth century. This is a remarkable MS. because the neumes are given for some hymns in the Linear and for others in the Round Notation. No principle can be observed in this choice of notation; and we may guess that the scribe could only borrow his original in the Round Notation for a few days at a time, and hence was obliged to fill up with the already obsolete Linear. The MS. is well written and has been little used. I have a copy of our sixth hymn; but my photographs do not cover our series. If only the scribe had given us a passage in *both* notations, how easy would be the end of all our conjectures!

7. British Museum, Harl. 5544, and

8. British Museum, Ad. 17,718.

These are used only for Hymn 7 and will be described later.

SIGNATURES AND CADENCES OF THE BYZANTINE MODES.

In an article on this subject which appeared in the *Annual* a few years ago I gave evidence from the Hirmologus at Grottaferrata and from other sources to prove that most of the Byzantine Modes had more than one possible starting-note, and that the signature or Martyria was intended to make this clear and also to shew what Intonation or initial formula might be sung before the words of the hymn itself. The Morning Hymns of Leo bear out the conclusions there stated. But much fuller evidence has been gained from a detailed study of the Stichera Anastasima and the Anabathmi, which form the kernel of the Greek Octoechus.[1] These consist of 180 hymns, varying in length from two to nineteen lines of music. They are arranged by modes. I have deciphered all the modes in the MS. Athen. 974, already described. In this whole series of hymns the MS. only has three errors, which I have corrected by reference either to Cod. Patmiensis 220 or to Athen. 883. We thus have before us the full transcription of this important body of Byzantine music; and the result shews the correctness of the suppositions made in my earlier

[1] See my article in *Byz. Zeitschr.* xxxi (1931), p. 13, with a facsimile from Athen. 974.

article about the starting-notes of the eight modes. Almost every signature there tabulated has been verified by ample instances in the Octoechus and not one invalidated.

CHRONOLOGY OF THE MUSICAL NOTATION.

Hitherto no manuscript in the Round Notation has been dated with complete certainty earlier than 1280. But on visiting Patmos in September 1929[1] I found evidence for a much earlier origin.[2] The MS. Patmos 220 (ΣΚ′) is a Sticherarium of the most familiar type, clear and accurate, in the mature Round Notation. It bears in two places the date 1223. Another MS., 221 (ΣΚΑ′), contains a selection of hymns, in somewhat florid style, in an unusual but not specially archaic Round Notation. This seems to be a unique MS., giving the compositions of an ambitious precentor, which were alien to the severer orthodox tradition. Unfortunately the writing is careless and inaccurate. The scribe tells us that he finished the work in the reign of Manuel and Mary—that is, Manuel Comnenus (1143–1179). The MS. 218 (ΣΙΗ′) contains part of a Sticherarium with the usual contents,[3] but an archaic style of writing. It is also inaccurate, and must be older than the last-mentioned, as must

[1] I have pleasure in thanking the Sub-Abbot, the Librarians and the Holy Fathers generally for the very kind welcome that was accorded to me at Patmos, where I was granted full facilities for copying the MSS. in the excellently-arranged library. (I may mention, as a warning to others, that visitors are not allowed to take photographs of the manuscripts.) My best thanks also are due to the guest-master, Deacon Constantius, who saw to my comfort with unfailing goodness. With regard to this Monastery, a true haven of peace and a rich storehouse of learning, I fully endorse the remarks of Prof. Dölger in the *Byz. Zeitschr* xxviii (1928), 334.

Valuable introductions or other help were received from the following, to whom I also express my gratitude :—His Blessedness the Archbp. of Thyateira, the Greek Consul at Cardiff (Mr. M. Yannopoulos), Prof. Socrates Kougéas, Prof. L. di Castelvecchio (Univ. of Birmingham), the Abbot of Pershore, the Italian Embassy in London, H.B.M. Consul at Rhodes (Mr. E. Perkins).

[2] The MSS. are described and the dates given in the printed catalogue, I. Sakkelion, *Πατμιακὴ Βιβλιοθήκη*, Athens, 1880. But as the compiler does not distinguish between the various musical notations, I could not apply his information until I had seen the MSS. myself.

[3] This MS. consists of fragments by several hands : the middle portion is in the Coislin Notation. It is uncertain to which of these the deed of gift on the front page (dated 1167) was meant to refer.

The MS., Patmos 224, is a Hirmologus (*falso cat.* Sticherarium).

A specimen of another MS. in the archaic Round Notation, dated 1177, is in Benesevič, *Monumenta Sinaitica*, Pl. 58. (This date, which had seemed doubtful hitherto, may now be accepted on the evidence from Patmos, and also that of Pl. 65, date 1236.)

the even more archaic Hirmologus on Mount Athos, Iberon 226. It would seem likely, therefore, that the Round Notation was invented early in the twelfth century.

TRANSLATION OF THE MORNING RESURRECTION HYMNS OF LEO.[1]

1. Unto the disciples, as they hastened to the Mount, by reason of His Resurrection from the earth, the Lord drew nigh, and having worshipped Him and having been taught the power granted unto them everywhere, they were sent forth into the world to proclaim the resurrection from the dead and the restoration to Heaven. With them too the Faithful one promised to abide, even Christ the God and Saviour of our souls.

2. When the women with Mary came, bringing spices, and were at a loss how they could gain their desire, the stone was seen rolled away, and a godlike youth stilling the tumult of their souls. For, he saith, Jesus the Lord is risen. Wherefore proclaim unto His heralds, the disciples, that they hasten into Galilee, and they shall see Him risen from the dead, as life-giver and Lord.

3. Mary Magdalene brought the glad tidings of the Saviour's resurrection from the dead and of His appearance. But the disciples believed not and were rebuked for the hardness of their hearts. But, armed with signs and wonders, they were sent forth to preach. And Thou, O Lord, wast received up unto the Father, the Fount of light. But they proclaimed the word everywhere, gaining belief through the miracles. Wherefore we, by them illuminated, glorify Thy resurrection from the dead, O Lord, the friend of man.

4. It was early dawn when the women came unto Thy sepulchre, O Christ. But the body, which they desired, was not found. Wherefore, as they doubted, the men in shining raiment, that stood by, said, 'Why seek ye the living with the dead? He is risen, as He foretold. Why are ye forgetful of His words?' And they, being convinced by these things, proclaimed what they had seen. But their good tidings seemed as idle tales; so dull yet were the disciples. But Peter ran; and having seen, glorified Thy wondrous deeds towards him.

5. Oh, how wise are Thy judgments, O Lord! How didst Thou grant unto Peter to know Thy resurrection by the grave-clothes alone! But in journeying with Luke and Cleopas didst converse and in conversation didst not straightway make Thyself known. Wherefore Thou wast reproved as being alone a stranger in Jerusalem, and not knowing the decree of her governors. But Thou, who guidest all things for the good of Thy creatures, didst unfold the prophecies relating to Thyself and in the blessing of the bread wast known unto them, whose hearts even before burned to know Thee. They too unto the assembled disciples proclaimed openly Thy resurrection: through which have mercy upon us!

[1] Greek text, with the biblical references, in *Anthologia*, pp. 105–9. We have been obliged to follow a simpler plan of numbering the lines. Greek text also at the end of the *Paracletice*. The *Eothina* are sung at Lauds on Sundays.

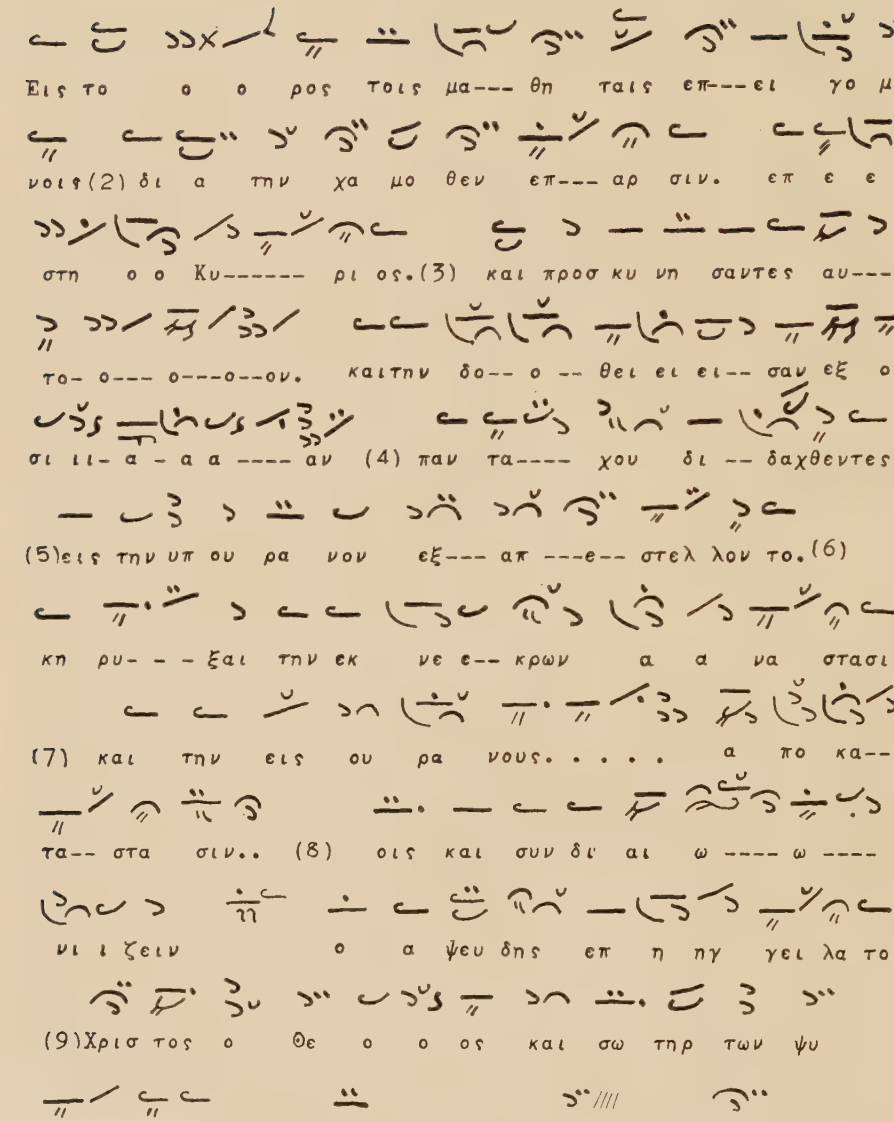
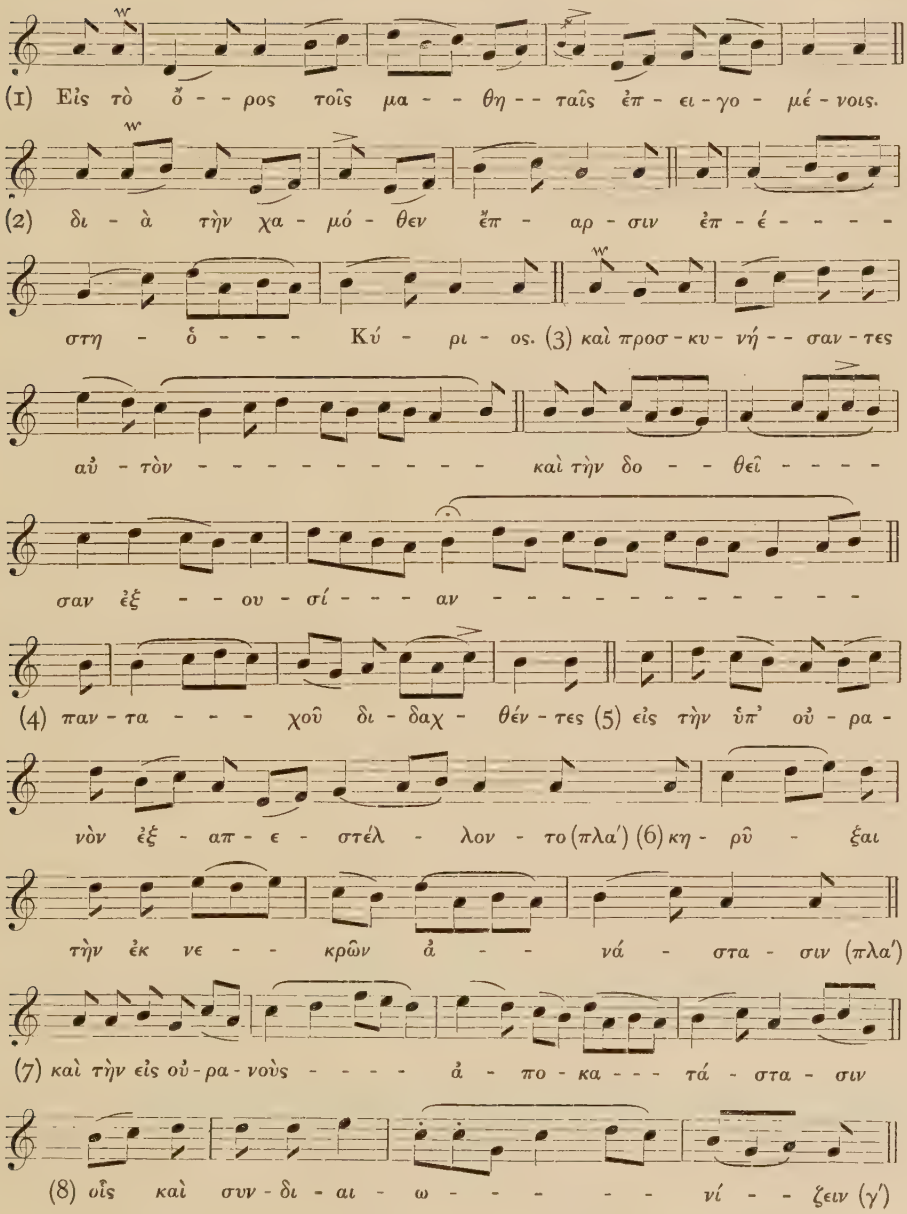


FIG. 1.—HYMN I, COD. ATHEN. 974, p. 202.

Hymn I, cod. Athen. 974, p. 202.
(Byzantine Notation, Fig. 1.)
Mode I, from a, Finalis a.



The first eight lines read clearly. The variants in Trin. and Ambros. are unimportant, except in line 2, where they give a more melodious phrase.[1]

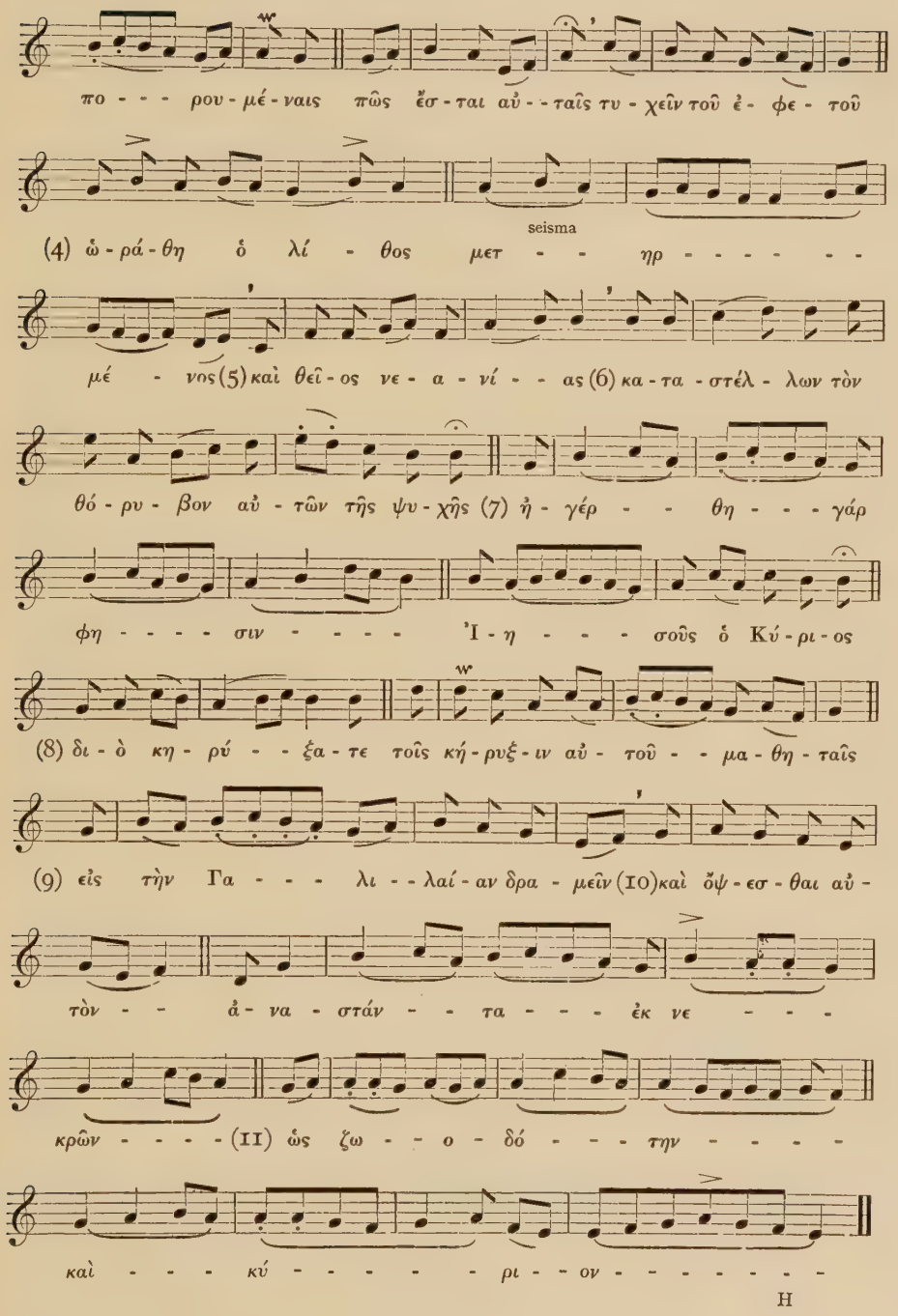
ef a ga b – c′ a – a
χα – μο – θεν επ – αρ – σιν

The signature at the end of line 8 refers to the following note.

In line 9 the MS. reading would make the hymn end on e′, which seems impossible. In order to correct this, we propose to read over *Χρισ*— Elaphron over Apostrophus, Duo Kentemata. Both Trin. and Athen. give Oligon, Duo Kentemata. The mistake might have arisen when the scribe, copying the Round archetype from the Linear version, preserved the Oligon, Duo Kentemata, which, in that system, could have been read from the lower Finalis d, and thus would have given the required notes, e, f. Ambros. has either Apostrophus or Apostrophus-Elaphron, with Duo Kentemata *in rasura*, which shews that some descent of the melody was meant.

Hymn II, Cod. Trin. 256, f. 296 *b*.
(Byzantine Notation, Pl. XV.)
Mode II, from b, Finalis e.

[1] A short stroke after a note (*e.g.* b —) means a crotchet.


πο - - - ρου - μέ - ναις πῶς ἔσ - ται αὐ - - ταῖς τυ - χεῖν τοῦ ἐ - φε - τοῦ
seisma
(4) ὠ - ρά - θη ὁ λί - θος μετ - - ηρ - - - - - -
μέ - νος (5) καὶ θεῖ - ος νε - α - νί - - ας (6) κα - τα - στέλ - λων τὸν
θό - ρυ - βον αὐ - τῶν τῆς ψυ - χῆς (7) ἠ - γέρ - - θη - - - γάρ
φη - - - - σιν - - - - Ἰ - η - - - σοῦς ὁ Κύ - ρι - ος
(8) δι - ὸ κη - ρύ - - ξα - τε τοῖς κή - ρυξ - ιν αὐ - τοῦ - - μα - θη - ταῖς
(9) εἰς τὴν Γα - - - λι - - λαί - αν δρα - μεῖν (10) καὶ ὄψ - εσ - θαι αὐ -
τὸν - - ἀ - να - στάν - - τα - - - ἐκ νε - - -
κρῶν - - - - (11) ὡς ζω - - ο - δό - - - την - - - -
καὶ - - - κύ - - - - - - ρι - - ον - - - - - - -

2. Line 1. [με]τα Kratemohyporrhoon-Oxeia. Athen. gives Krat-hyp. and Oligon separately. The Gorgon, as usual, is a warning against a rallentando.

2. Over -αμ Athen. has Oligon, Krat-hyp-Oligon = *b — a-g-a.*

3. Over -πορ- Athen. *b — aga.* Over -με- Kuphisma, accented and perhaps ornamented note (value ascending 2nd here annulled by Ison).

4. Athen.

g – ab	a	a – gf	ggfg – a	gef	e		
λι –	θος	μετ –	ηρ – –	με – νος			

Over μετ, Trin. has the group called σεῖσμα in which the Hyporrhoe is annulled.

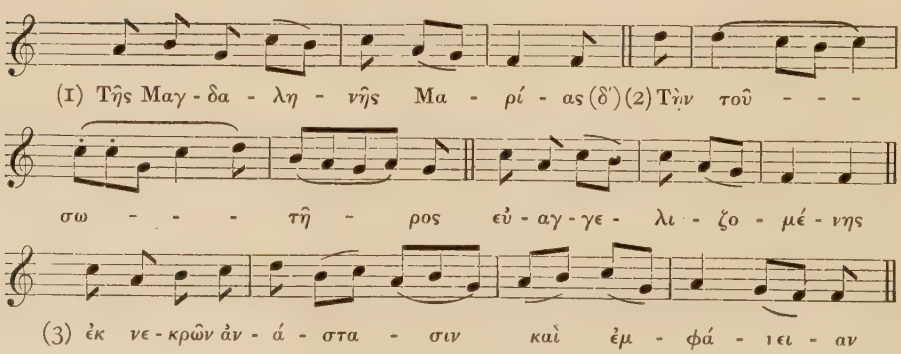
5. Athen.

d	g	g	ab	g	a — bc	b —	
και	θει – ος	νε – α –			νι –	ας	

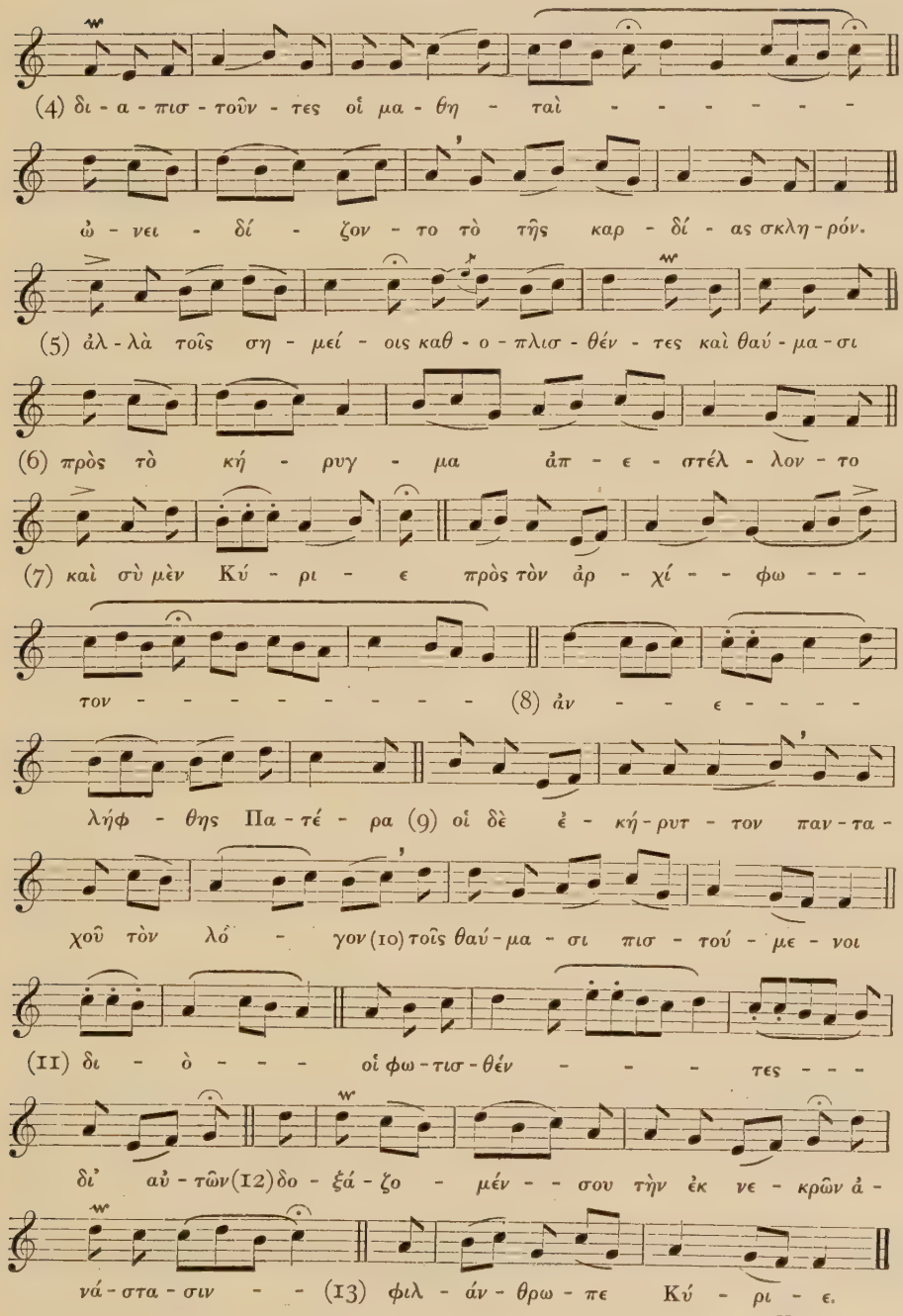
7 ff. The latter half of this ode is confused both in Athen. and Ambros.; and, as these both reach a wrong conclusion, we shall be safest in following Trin. The signatures in lines 8 and 10 agree with Ambros.

7. *I*]η[σους. The Hyporrhoe here is not very clearly distinguished from the Tromikon(?) in 10 and the Psephiston at the end of 11, both mute. In the group called Seisma (over και, 11) the Hyporrhoe loses its value. This is clearly stated in the Papadike . . . ἡ δὲ ὑπορροὴ ὑποτάσσεται ὑπὸ τοῦ πιάσματος καὶ γίνεται σεῖσμα.[1] Over -ρι- 11, Antikenoma (*portamento* effect).

Hymn III, Cod. Trin. 256, b. 296 *b*.
(Byzantine Notation, Pl. XV.)
Mode III, from a, Finalis f.



[1] Ἑλλ. Φιλ. Σύλλ., ΚΑ΄, 166.


(4) δι - α - πισ - τοῦν - τες οἱ μα - θη - ταὶ
ὠ - νει - δί - ζον - το τὸ τῆς καρ - δί - ας σκλη - ρόν.
(5) ἀλ - λὰ τοῖς ση - μεί - οις καθ - ο - πλισ - θέν - τες καὶ θαύ - μα - σι
(6) πρὸς τὸ κή - ρυγ - μα ἀπ - ε - στέλ - λον - το
(7) καὶ σὺ μὲν Κύ - ρι - ε πρὸς τὸν ἀρ - χί - - φω - - -
τον - - - - - - - - - (8) ἀν - - ε - - - -
λήφ - θης Πα - τέ - ρα (9) οἱ δὲ ἐ - κή - ρυτ - τον παν - τα -
χοῦ τὸν λό - γον (10) τοῖς θαύ - μα - σι πισ - τού - με - νοι
(11) δι - ὸ - - - οἱ φω - τισ - θέν - - - τες - - -
δι' αὐ - τῶν (12) δο - ξά - ζο - μέν - - σου τὴν ἐκ νε - κρῶν ἀ -
νά - στα - σιν - - (13) φιλ - άν - θρω - πε Κύ - ρι - ε.

3. Line 1 *fin.* Signature refers to following note.

2. *τηv.* Hypsele over Oligon = 6th up. *τoυ* Kratemohyporrhoon-Oligon = 2 down and 1 up : prolongs the Ison. Diple prolongs the Oligon.

4. *-θη-.* Position of neumes clear in Athen. but carelessly marked in Trin.

-νει-. Two Apostr. separated (as often) by Antikenoma. A *portamento* effect is perhaps intended.

5. *Init.* Athen. has two Oxeiai and Kent. = 5th up with *sfz.* Trin. has Hypsele.

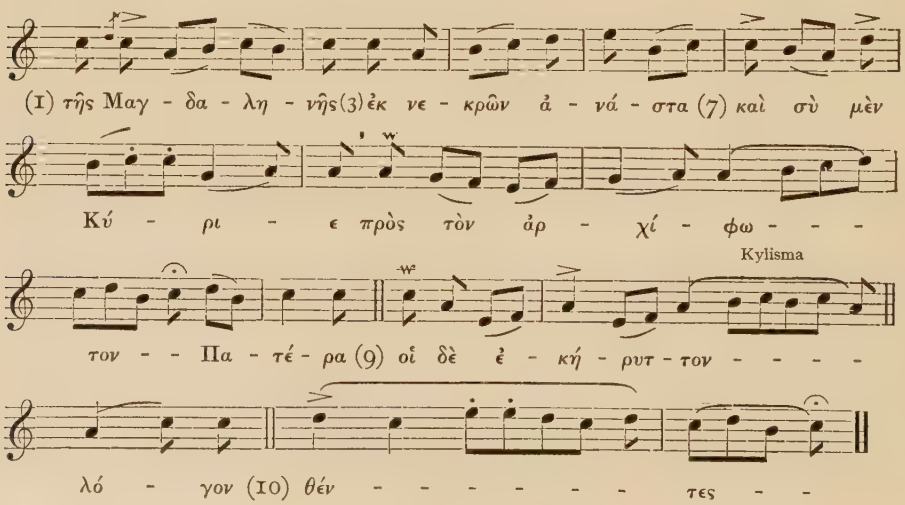
ση-. Read Bareia, Oligon over Elaphron : so Athen., Trin. probably had this, but altered Oligon into Kentema by mistake. *καθοπλισθέντες,* we follow Man. II = Athen. Man. I. is wrong.

7. *fin.* Signature is probably I Pl. surmounted by an ascending 4th (Kentema over Oligon) : this refers to the next note, d′. Athen. has Mode IV with 5th up = d′.

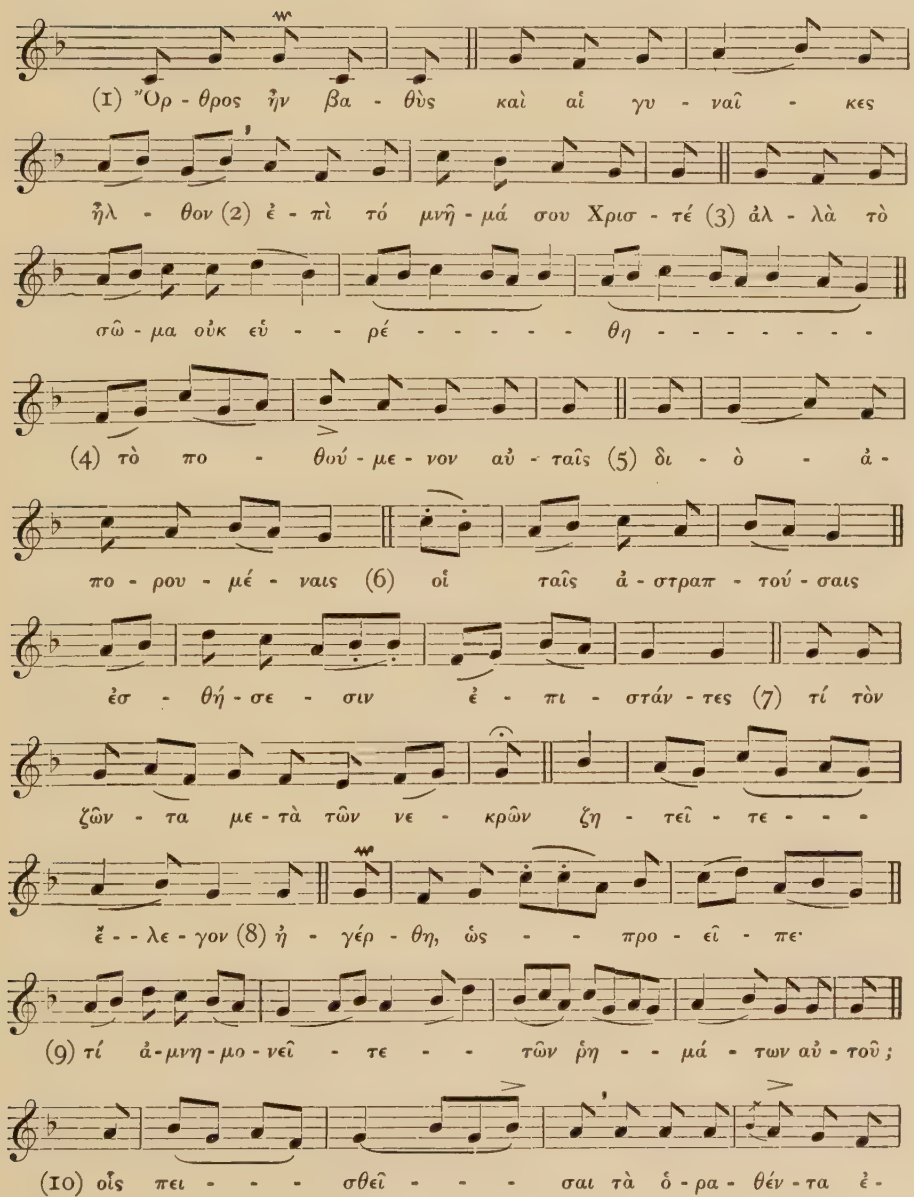
10. *θαυ-.* Ison over Petaste, clear in Athen.

12. *-σιν.* Read Ison (not Apostr.) Duo Kent., Elaphr.—so Athen. Trin. is wrong. It will readily be understood that, in a long and complicated hymn, one or two small slips in the MS. would throw us entirely out of our reckoning if we trusted to one copy alone; but by the aid of another MS. the difficulty can nearly always be cleared up.

Athen. has several admissible variants, of which we give the most important.



Hymn IV, Cod. Trin. 256, b. 297.
(Byzantine Notation, Pl. XV.)
Mode IV, from g, Finalis g.



4. Mode IV may begin from d′ or g. In the latter case it requires b flat. For this hymn g is the better starting-note.

Line 1. *ηλ-* Parakletice (slur).

2. *fin.* Signature apparently wrong (I Pl.). Perhaps IV Pl. was intended.

3. *init.* The Ison over the Petaste, though faint, is in black ink. So also Athen. *-θη* Apostr. Gorgon, Oxeia, etc.

6. *init.* Red variant gives c′d′c′b. over *οἱ*.

9. *fin.* The medial signature, as often, is inaccurate. It should not have had Oxeia, Duo Kent. added.

10. *-κη-*. The red variant gives g a g f (cf. l. 6).

12. b natural is demanded by the rise of the melody to e′ and the cadence in Mode III.

13. The signature after *ἰδών* is probably that of II Pl., but is again inaccurate. Over *-σε* something was erased above the Elaph. The text is right as it stands and is equivalent to that of Athen.

Readings in Sinaiticus 1244.

a – ba g b ag f.

Line 1. *αι* – *κες* – *η* – *επ* *ι*

3. -θη. Uncertain. The scribe wrote an Apostrophus and a Diple whose second stroke he then altered into an Elaphron. Perhaps Apostrophus was intended. This would give

af b c′– ba b – ag – ab c′ g a g b
θη . . . . . (4) το πο – – – θου- κτλ.

c′c′ba b c′d′ a ba g
6. οι – – – ταις αστ ρα που – σαις.
7. -τει- Piasma instead of Antikenoma.

c′c′ba gaf ab c′ b c′ abc bcd(?)
8. ως – πεν 9. τι α – μνη – μο – νει – τε – – κτλ.

Over -τε the Kratema seems to be used as an interval-sign as in the Linear System. This MS. contains hymns in that system written by the same scribe; so that it is not unlikely that a mistake, due to reminiscence, should occur here. The interval-value of the Kratema in the Linear System was probably an ascending second with prolongation. In this MS. it is not distinguished from the Xeron Klasma. 10. -σθει- Oligon instead of Kentema. This may be an error. Trinity (which seems to have been corrected) agrees with Athen. Otherwise Sinait. would have the whole passage one note lower as far as -κει in l. 11, where another variant brings it into line again. Thus λη— ρος We may either leave both or emend both. Sinait. has no medial signatures. The reading of Trin., supported by Athen., is preferable.

gafa

agab ag.

12. Here Athen. and Sin. agree and seem to read—

d′ c′ ba b b c′d′ d′ c′a b a g a bgaf g – a –
οι μα – θη – ται 13. αλλ ο Πε – τρος εδρα με και ι — δων . .

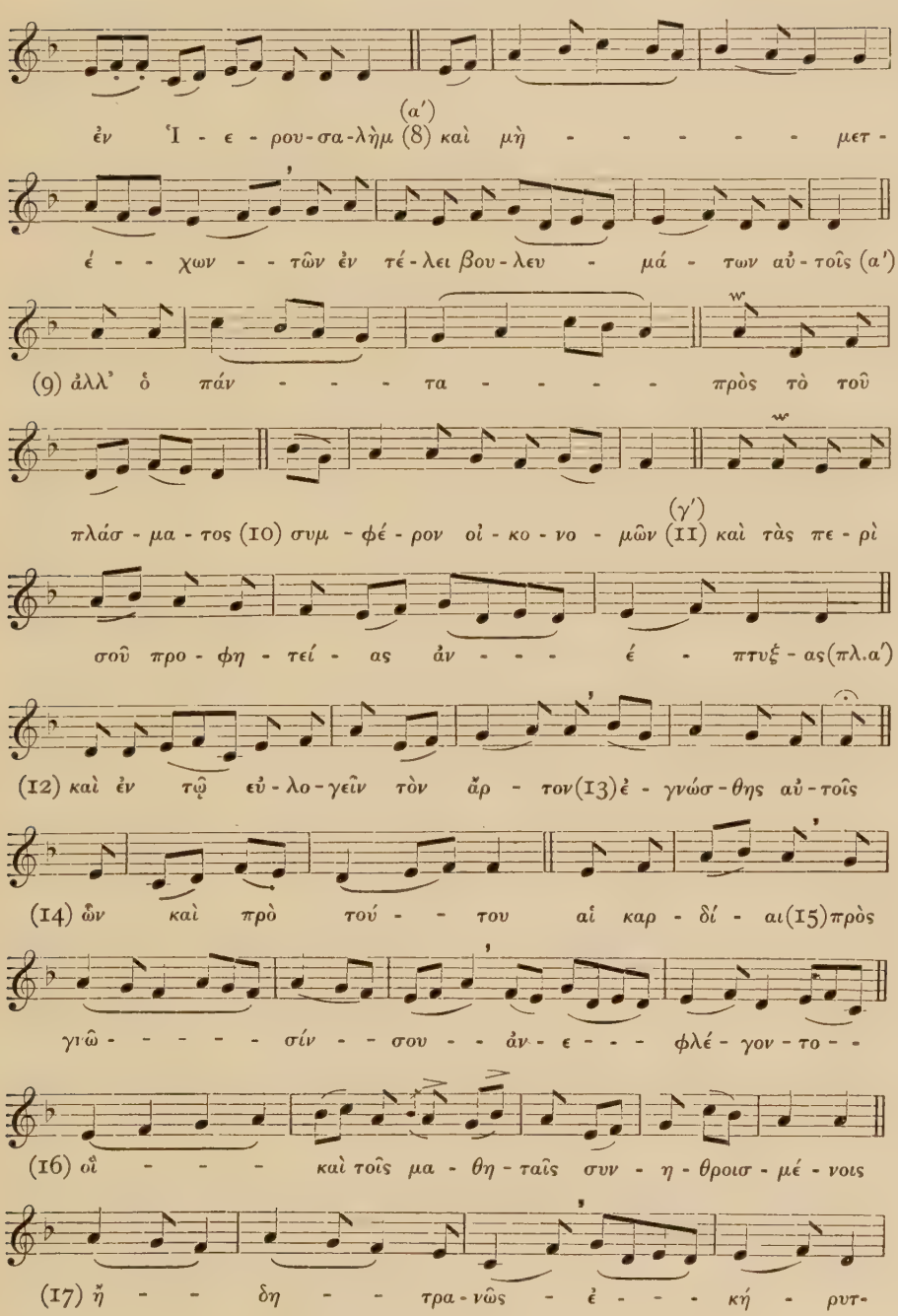
c′ba – ab c′ – bab b bfbc′ bafg f
. . . . ε δο – – – ξα – – – σε . . . σου.

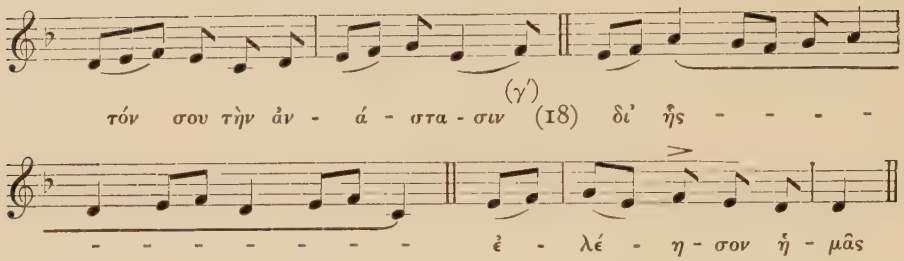
c′gag ab

14. Sin. θαυ – μα (probably: my photograph stops at αὐτόν and my copy is not quite certain). Athen. = Trin.

It seems clear that these divergent readings are not of great importance and do not indicate that Sinai had a musical tradition of her own apart from the rest of the Greek East.

Hymn V, cod. Trin. 256, f. 297.
(Byzantine Notation, Pls. XV, XVI.)
Mode I, Plagal, from d, Finalis d.


(α′)
ἐν Ἰ - ε - ρου - σα - λὴμ (8) καὶ μὴ - - - - - - μετ -
ἐ - - χων - - τῶν ἐν τέ - λει βου - λευ - μά - των αὐ - τοῖς (α′)
(9) ἀλλ' ὁ πάν - - - - τα - - - - - πρὸς τὸ τοῦ
(γ′)
πλάσ - μα - τος (10) συμ - φέ - ρον οἰ - κο - νο - μῶν (11) καὶ τὰς πε - ρὶ
σοῦ προ - φη - τεί - ας ἀν - - - ἐ - πτυξ - ας (πλ.α′)
(12) καὶ ἐν τῷ εὐ - λο - γεῖν τὸν ἄρ - τον (13) ἐ - γνώσ - θης αὐ - τοῖς
(14) ὧν καὶ πρὸ τού - - του αἱ καρ - δί - αι (15) πρὸς
γι ὦ - - - - - σίν - - σου - - ἀν - ε - - - φλέ - γον - το - -
(16) οἳ - - - καὶ τοῖς μα - θη - ταῖς συν - η - θροισ - μέ - νοις
(17) ἤ - - δη - - τρα - νῶς - ἐ - - - κή - ρυτ -



5. Line 1. *σο-* Piasma = slight accent in descent.

3. *ἐδω-* Antikenoma, not found in Athen., probably only shows a slight accent here. *ἐν-* Oligon-Kentema : right. The sign above this has been erased. *-σαι* Psephiston = accent. *σου* Double Apostrophus, Oxeia, Gorgon.

5. *-ως.* Psephiston = accent : not Hyporrhoe. Cod. Athen. distinguishes more plainly between these signs.

6. *fin.* Signature probably is Mode I Plagal with ascending fourth = g. Man. II confirms this by an Ison.

7. *-ε – ρου.* The upper signs belong to Man. II. This is clear in the MS. *Ad fin.* the signature gives Mode I and the formula a g f e d —. All this, of course, was added by Man. II, and was not part of the original melody. Athen. more logically gives I Plagal.

9. *ἀλλ.* Man. II has an Ison, confirming the signature, = a.

15. *γνῶσιν.* We have divided the notes between the syllables as in Athen. Trin. is often careless in this matter. Observe the Psephiston (accent) over the second a. *ἀν-* Antikenoma, probably a *portamento.*

17. *-ρυττον* Signature of I Plagal = d. This hymn has more tune, in the modern sense, than most of the others; but this was probably not designed, as the composers in the earlier Round Notation were content to follow the sense of the words without seeking any special effects of their own. Chief variants in Cod. Athen. (p. 204) :

a g ga
2. *ο θο νι*

de d c d ef ed cd f
4. *-πα συμ - πο - ρευ- ο – με – νος ο*

5. *εὐθέως σε-.* The notes are the same but divided differently.

g – aef ed cd
8. με τε- -λει βου-
cd ef.
9. πλασ (page 205) μα-
10. *ad. fin.* Martyria III, Pl. = f.

ga gf cg
16. -θη -ταις -θροισ
a – gfe f – g – fe f – d
17. η – – – δη – – – – – – τρα

GENERAL CONCLUSIONS.

The other Morning Resurrection Hymns will be given in next year's *Annual*; but we venture to lay our inferences before the reader at this point, with the assurance that they have been drawn from the whole series.

The Morning Hymns of Leo are the most elaborate musical works extant in the classical Round Notation. Our studies have shown that they can be read in the Athens manuscript with one or two small emendations. Further, we have found that the differences of readings in other manuscripts of the same notation are unimportant and even trifling. The substantial likeness between manuscripts varying in date by several centuries is far more wonderful. Riemann's opinion that there was no uniform tradition in Byzantine hymnody is therefore untenable.[1] This agreement seems to hold for all Sticherarical hymns: that is, for the Idiomela for fixed days, those for Lent, Holy Week and Eastertide and for the Lesser Octoechus. We have examined enough examples to give us confidence in making so bold a statement. We cannot yet decide whether this uniformity came with the invention of the Round Notation, or already subsisted in the earlier stages. We will now sum up the results of our discussion.

(1) From the earliest use of the Round Notation (before 1150) to the seventeenth century there was, in the main, one standard form of most ecclesiastical melodies for the whole Orthodox Church from Athos to Sinai, from the Italian monasteries to the Near East.

[1] *Die Byz. Notenschrift*, pp. 35 and 44.

(2) Variants are mostly unimportant, being largely due to local preferences for more or less ornamental figures and cadences.

(3) If our observations on these two heads be correct, then we may infer that the inventors of the Round Notation secured a standard text, based presumably on some archetype in the Coislin System, and that all Sticherarical MSS. in the Round Notation had a common original in the Round Notation itself.

(4) Only very few melodies were current in more than one form. The Canon for Easter is an example. In such a well-known piece a divergent tradition is not surprising.

(5) In the seventeenth and eighteenth centuries most of the melodies were recomposed. The new tunes were either simplifications of the old, or else far more florid and elaborate, shewing the prevailing Oriental taste.

(6) In the nineteenth century a fresh start was made on the introduction of the Chrysanthine System. Composers may have based their work partly on oral tradition, but they did not translate systematically from the manuscripts of past ages.

(7) The Russian Church by the sixteenth century had parted with the Byzantine musical tradition. Probably the alliance was broken during the dark age of Tartar supremacy. The Russian Church had borrowed a system like the Coislin Neumes, but never acquired the Round Notation. Her Hooked Notation (called Kryuki or Late Sematic) is fundamentally different, although it grew out of the Byzantine neumes and was again influenced by Greek music in the seventeenth and eighteenth centuries. A new impetus would be given to the study of Byzantine music if the Slavonic manuscripts in Russia were to be made accessible to foreign investigators.

The main deduction, however, is that the Round Notation, being established long before the disruption of the Byzantine Empire, was connected by an unbroken chain of tradition with the earliest forms of the neumatic system, and was itself used to perpetuate a standard and fairly uniform musical text accepted all over the mediaeval Greek world.

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A DANCING MAENAD.

(Plates XVII, XVIII.)

To his account of the sculptures in the collection of the Duke of Bedford at Woburn Abbey, Michaelis appended a brief mention of the vases in the Duke's possession, singling out ' one of a Bacchante dancing merrily, for whom a Satyr in a graceful attitude blows the flute.'[1] This vase was in the British Museum for a few weeks some years ago, and I happened to see it there : his Grace very kindly permitted me to have it photographed, to copy the pictures, and to publish it here (Pls. XVII, XVIII) : for which I would beg him to accept my thanks.

It is a vase of a common type—a Nolan amphora—but of quite unusual charm. The picture on the front—the dancing maenad, the boy satyr playing the flute—is complete in itself ; but the singing woman on the back of the vase is not a mere ' mantle figure,' she is connected with the group on the front, and blends with them into a trio—music, dance, and song.

The vase is Attic work of about 430 B.C., and the artist is the Phiale painter, so called from the beautiful phiale in Boston, recently republished, and at last worthily, by Caskey.[2] That also is concerned with dancing ;

[1] *Ancient Marbles in Great Britain*, p. 753.

[2] *Attic Vase Paintings in Boston*, Pl. 29, No. 62. Already figured in my *Vases in America*, p. 167.

I have given a list of the Phiale painter's works in *Att. V.*, pp. 381–87 and 477, and additions in *Vases in Poland*, pp. 50–53 and 80. Since then the three Boston vases have been published by Caskey in *Attic Vases in Boston ;* the London neck-amphorae, Nolans, hydria, the Oxford Nolan, the Cambridge Nolan, the Louvre bell-krater, in the respective sections of *Corpus Vasorum*; two of the Leningrad Nolans by Miss Peredolski in *J.H.S.* xlviii ; the Berlin Circe Nolan in Schaal, *R.f.* Fig. 46 ; the Athens cup-fragment (D 42, not D 4) in Graef and Langlotz, ii. Pl. 31, 386. Add a Nolan amphora in Naples (see below), and fragments of others in Florence (lower part of a figure wearing chiton and himation) and Athens (Athena and Marsyas : Graef and Langlotz, ii. Pl. 49, 632), fragments of bell-kraters in Syracuse (24129), and Florence (B, woman), hydriai in Copenhagen (girl dancing, woman fluting, and youth : *C.V.* Cop. Pl. 154, 3 and Pl. 155, 2), and Mykonos (three women), a fragment of one in Palermo (girl dancing : from Selinus), lekythoi in Syracuse (44284, Hermes pursuing a woman), Athens (woman with mirror and woman with alabastron), a

and so are many of the painter's vases; but his dance pictures I hope to treat elsewhere. I figure, instead, another 'satyr and maenad,' this from

FIG. 1.—NOLAN AMPHORA IN THE CABINET DES MÉDAILLES.

a Nolan amphora in the Cabinet des Médailles (Fig. 1).[1] Here also the reverse figure is taken up into the chief picture: a second satyr runs up to cut off the maenad's retreat.

fragment of one in Berlin private possession (head of a woman: phot. Germ. Inst. Rome, varia, 459, 3), a pyxis in Athens (1588, CC 1552, phot. Germ. Inst. Athens, N.M. 775). My No. 9, as I learn from Prof. Lippold, is now in Erlangen. The rhyton, my No. 75, is now in Toronto (D. M. Robinson, *Greek Vases at Toronto*, Pl. 56, 360): it is not, I think, by the Phiale painter, but by the Marlay painter.

[1] Taken with a few corrections from the drawing by Simoës da Fonseca in de Ridder's catalogue, p. 275. The reverse figure, *ibid.* Pl. 12, No. 375. No. 13 in my list, *Att. V.* p. 382.

Let us look at the attitude of our maenad. With her left foot she takes a full step forward; bends over the forward leg; extends her left arm downwards, with the hand open and the palm parallel to the ground; and raises her right arm, bent at the elbow, over her head. The next step will be the same, but with arms and legs reversed. I do not know where to find a dance-attitude like this on vases of the period. Ten or twenty years later there is the Pothos painter's maenad on his bell-krater in Providence [1]: but the resemblance is superficial: she holds sprigs in her hands, and is plunging along up-hill. Much closer are maenads of the late archaic period:—a maenad on a cup by Makron in Orvieto; [2] and another on a cup by Douris in Boston, though there the likeness is a little obscured by the 'wing-sleeves.' [3] Of the maenads on Makron's magnificent dance-cup in Berlin,[4] several are nearly in this position, though none quite: the dance is the same, but just this attitude happens not to be represented. The same may be said of the maenad cup by the Brygos painter in Munich,[5] or his kotyle in New York.[6] Sometimes the hands are not like our maenad's; and sometimes the arrangement of arms and legs is chiastic—left leg and *right* arm forward, instead of *left* arm and left leg.

The attitude of the flute-player, with his bent knees and his trunk leaning back, recurs on other vases of the same period—a small pelike in the Vatican for one.[7] The thyrsus, stuck upright in the ground while the owner dances, also appears elsewhere, for instance in the New York kotyle mentioned above. As for the singing woman, I do not remember anyone very like her. She, like the dancer, almost takes one back to the archaic period—to the intensity of the Berlin painter's citharode [8] or the Brygos painter's,[9] or of the Briseis painter's Alexandros.[10] For her drapery I may perhaps quote the woman on the back of another Nolan

[1] Tillyard, *Hope Vases*, Pl. 23, No. 140: No. 1 in my list, *Att. V.* p. 453.
[2] Faina, 36: phot. Alinari, 32465: No. 32 in my list, *Att. V.* p. 213.
[3] *A.J.A.* 1900, p. 188–9, whence Hoppin, *R.f.* i. p. 230: No. 74 in my list, *Att. V.* p. 205.
[4] *W.V.* A Pl. 4, whence Hoppin, *R.f.* ii. p. 41; from photographs, Pfuhl *Malerei*, Fig. 438: No. 26 in my list, *Att. V.* p. 213.
[5] F.R. Pl. 49: No. 12 in my list, *Att. V.* p. 176.
[6] *Bull. Metr. Mus.* 1930, p. 137: attributed by Miss Richter.
[7] Passeri, *Picturae Etruscorum*, Pl. 210.
[8] Hearst collection: *J.H.S.* xlii. Pl. 2, and *Berliner Maler*, Pl. 21: No. 2 in my lists.
[9] Boston, 26.61: Caskey, *Attic Vases in Boston*, Pl. 8, No. 19.
[10] Louvre, G 151: *Mon.* 1856, Pl. 14.

amphora by the Phiale painter, now in Mr. Gallatin's collection;[1] and I conclude with another reverse figure by the same artist which is as simple, expressive, and unusual as ours (Fig. 2). This comes from yet another Nolan amphora, this time in Naples:[2] an athlete leans on a pillar, and is to be thought of as watching his companions—an armed runner and a trainer—on the other side of the vase.

J. D. Beazley.

[1] Raoul-Rochette, Pl. 3, 1: No. 23 in my list, *Att. V.* p. 383.

[2] 3083: not in my previous lists. I am indebted to Dr. A. Maiuri for permission to publish the figure.

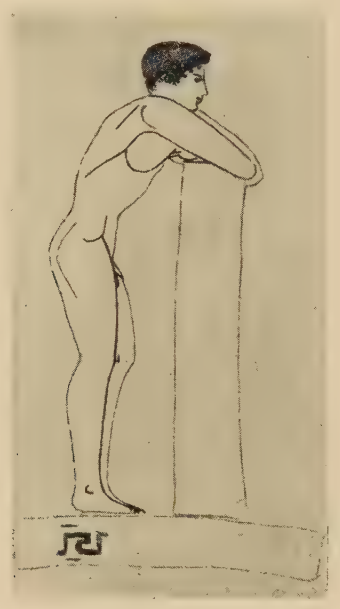


Fig. 2.—Nolan Amphora in Naples.

REPORT ON EXCAVATIONS AT THE TOUMBA OF SARATSÉ, MACEDONIA, 1929.

Abbreviations:
Vardaróftsa = Report on Excavations (*B.S.A.* xxvii, pp. 1–66).
Chalcidice = Two prehistoric sites in Chalcidice (*B.S.A.* xxix, pp. 117–186).

Introduction.

In accordance with the plan to explore a representative mound in each area of Central Macedonia, the Toumba of Saratsé was selected as occupying a key position in the group of mounds that lies in the region of Lakes Lankadás and Beshik. Prehistoric finds in this district have so far been represented by the neolithic pottery from above the village of Aïváte (now Léte),[1] which lies at the foot of the hills, by the entrance to the Dervéni Pass, and by surface finds from mounds at Drymínklava (now Drymós),[2] and elsewhere. It was hoped that a deposit might possibly be found at Saratsé which would throw some light on certain obscure points of the Macedonian Neolithic Age. No such deposit was found, and only some half-dozen neolithic sherds (all except one, unstratified), but a sequence of pottery from the Early Bronze Age onwards was obtained, which makes it possible to place the site, and by inference the area, in relation to the rest of Central Macedonia and to Chalcidice.

The excavations lasted from March 11 to March 23, 1929.

The upper floor of a house in the village of Saratsé was taken. Mrs. Heurtley again most kindly performed the duties of caterer and cook. The following took part in the excavation: Miss W. Lamb (who surveyed the site and prepared the plan (Fig. 3)), Mr. O. Davies, and Mr. C. A. Ralegh Radford. Later, in Salonica, Mr. T. C. Skeat assisted in the preparation of the material for publication, in drawing sherds, and in other ways; while Mr. O. Davies again kindly undertook the analysis of specimens of slag. To Mr. W. N. Edwards, Assistant-keeper of Geology in the

[1] Cf. Fig. 1.

[2] Cf. *ibid.*

Natural History Museum, we are indebted for examining specimens of vegetable remains; of animal remains, to Miss D. M. A. Bate of the same Department. Mr. W. E. Woodward of the Department of Engineering, Cambridge, kindly reported on the gold-wire hair-ring, and Prof. K. A. Ktenás of the University of Athens on some of the stone axes.

W. A. HEURTLEY.

SITUATION: MAIN STRATIGRAPHIC FEATURES.

The toumba of Saratsé stands in a fertile plain, about five and a half kilometres west of Lake Lankadás, and one kilometre south of the village of Saratsé (Fig. 1). Much of this plain, which lies 100 metres above sea-level, is fertile cornland, watered by streams flowing from Krusha Balkan into the lake. Saratsé, now a refugee village, was formerly one of a group of " tchiftliks," centring round Lankadás.

The site is one of the many prehistoric settlements in the plain of Lankadás.[1] The principal attraction to the first settlers must have been the agricultural wealth, but the discovery of gold in the earliest stratum suggests a connection with the workers of the gold-bearing deposits of the Gallikós, even if the nearer rivers did not then contain alluvial gold.

The toumba lies near the point where several routes radiate from the northern exit of the Dervéni Pass. These are—(1) the road from Salonica to Serres and the Struma valley; (2) the road from Salonica to Stavrós and the east (the line of the Via Egnatia); (3) one or more routes leading north-west by easy crossings into the Gallikós and Vardár valleys. Saratsé is a large, circular, flat-topped mound, twenty metres high (Figs. 2, 3). The bottom is about 150 metres in diameter, and the top, which is roughly triangular, measures 60 by 48 metres.

The sequence of cultures represented in the toumba was investigated by means of two series of pits (each two metres square), one (A–F) on the west (Fig. 2, *a*), and the other (A 2–F 2) on the north slope of the mound (*ibid. c*). Each series consisted of six pits, starting at vertical intervals of three metres, and carried down to a depth of four metres, so that the finds from the surface levels might be disregarded. The toumba was also tested at other points (Pits A 1–D 1) (*ibid. a*) in order to confirm the results, and by Pits Q 1, Q 2, Q 3 (*ibid. b*), Z (*ibid. a*) and Y (*ibid. c*), in

[1] Cf. Fig. 1.

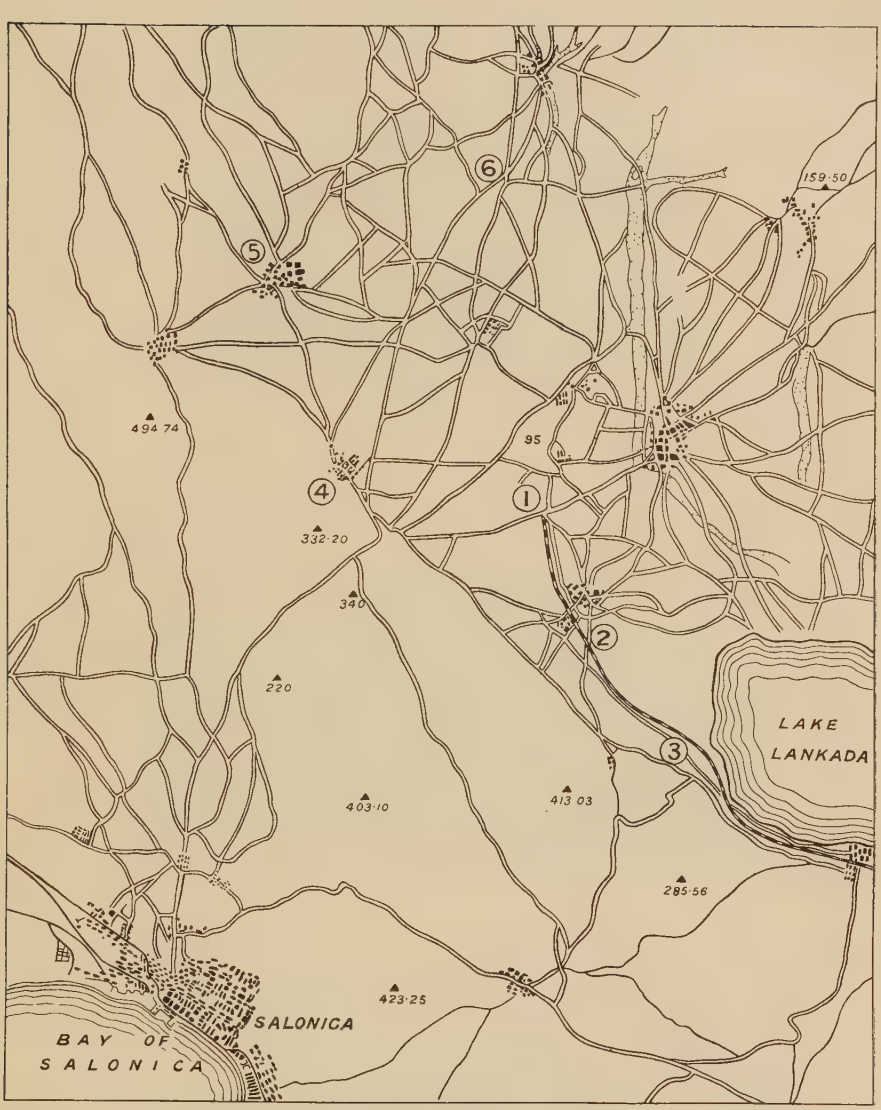


FIG. 1.—MAP OF DISTRICT SHEWING TOUMBAS.

1, Saratsé; 2, Kavalári; 3, Toumba; 4, Aïváte (Léte); 5, Báltza (Melissochóri); 6, Giouvésna (Asseros).

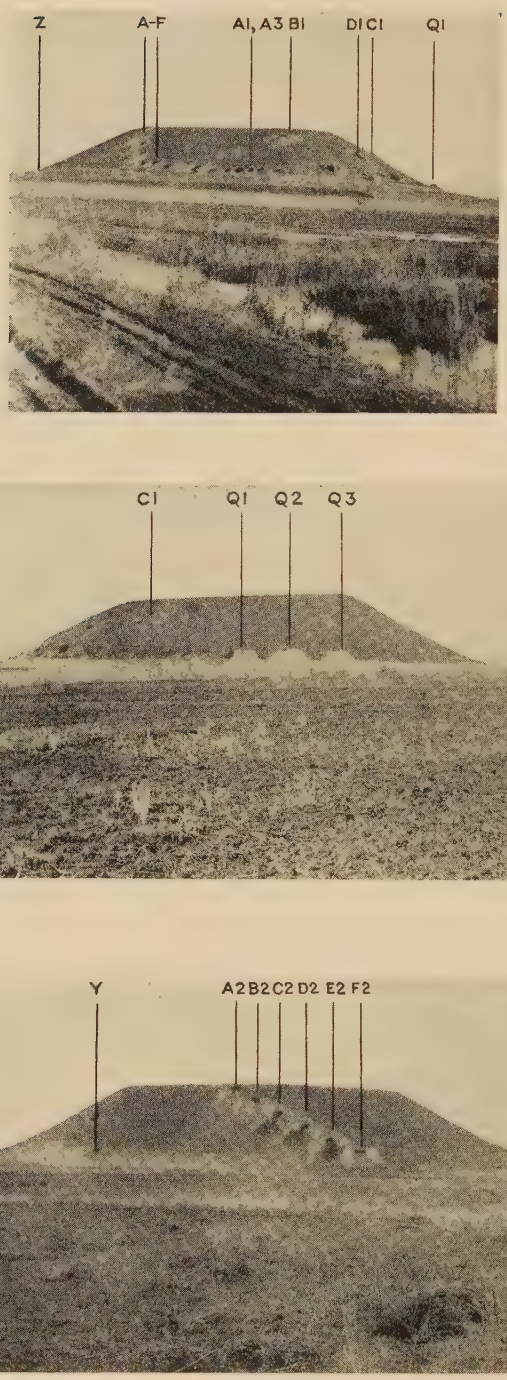


FIG. 2.—VIEWS OF THE TOUMBA: *a*, FROM SOUTH; *b*, FROM EAST; *c*, FROM NORTH.

order to ascertain whether a neolithic occupation preceded the earliest Bronze Age settlements. An extensive trial pit (A 3) (*ibid. a*) was opened on the summit in a search for evidence which might have established more clearly the date at which the site was finally abandoned. In the western series of trenches (Fig. 4, *a*), the stratification was satisfactory. Virgin

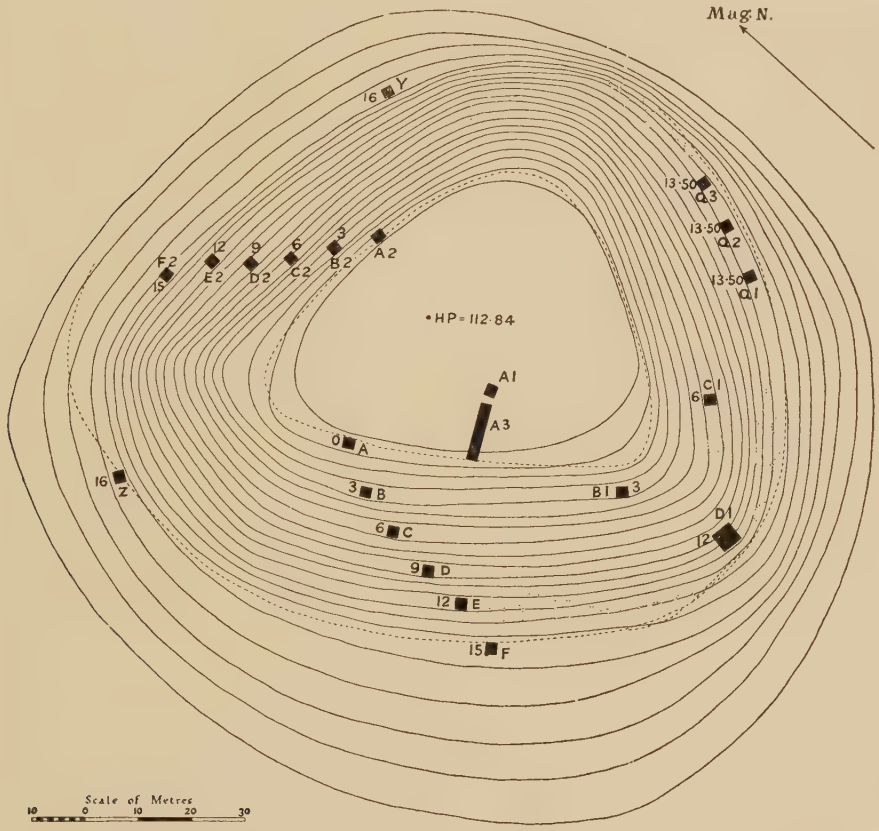


FIG. 3.—PLAN OF TOUMBA, SHEWING POSITION OF PITS.

Vertical interval one metre. Heights marked in metres below top of Pit A (= 68 cm. below highest point). Top of Pits A 1 and A 3 is 48 cm. below HP.

soil was found in Pit E, near the bottom of the thirty-second half-metre. The sixth pit (F), which was dug at the foot of the mound, lay outside the area of the settlement, and the deposit in this area consisted of rubbish and detritus from the slopes, without any clear stratification. The pits contained soil mixed with pottery and other artifacts, and marked at

intervals by badly-defined occupation levels, with few traces of structural remains. The soil in the upper strata was light, brown and very friable, containing a large proportion of disintegrated mud-brick, but below the eighteenth half-metre it became denser and darker, with black stains representing decayed vegetable matter. Virgin soil was a stiff brown clay, very similar in appearance to the lowest occupation levels, since its top half-metre was alsc heavily stained with decayed vegetation, but below this point the clay was undisturbed. The sequence of finds from these pits was confirmed by that from Pits A 1–C 1 (Fig. 4, *b*), but D 1 proved valueless, as it had been disturbed by later buildings.

In the northern pits (A 2–F 2) the soil was fine, and was very loosely packed. There was no trace of any structures, but pottery and other finds were numerous. The strata ran downwards, following the slope of the toumba, not horizontally as in the other pits (compare B 1 and D 2), and many of them were marked by a hard surface line (Fig. 4, *c*), which must, at some time, have formed the side of the mound. Mycenaean and sub-Mycenaean pottery were found in the lowest levels of these pits. It is certain that this area did not form part of the original settlement, and it seems most likely that it forms the rubbish dump of the Mycenaean inhabitants. No neolithic occupation was discovered in any of the pits Q 1–Q 3 (Fig. 4, *d*), the earliest Bronze Age settlements lying in every case immediately above the virgin soil. The different levels at which the undisturbed clay was found in these pits prove that the site was originally a low mound rising at least 3 metres above the surrounding surface.

The summit of the mound (112·84 m. above sea-level) is 68 cm. higher than the top of Pit A, from which the other pits and the half-metres are measured. In order to facilitate reference, all pits starting at the same level have been labelled with the same letter.

C. A. RALEGH RADFORD.

THE FINDS.

In default of marked stratigraphic levels, the system of classification of the finds is based, as elsewhere, on changes in the pottery. The analogy of other sites shews that the course of events at Saratsé is, with certain local differences, the same as in the Vardár valley, and to a less degree as in Chalcidice, and the periods are determinable by the same, if somewhat

FIG. 4.—SECTIONS OF TRENCHES.

less clearly marked, changes. Thus Period B is ushered in by the cessation of the bowls with incurved rim and their almost complete replacement by the bowls with wish-bone handle (a form which occurs, however, in the upper part of the preceding stratum), and by a development of the First Incised Style. Period C is less easily determined, but the elements which distinguish it elsewhere, viz. the appearance of *Mattmalerei* and the transition to a more carelessly executed incised decoration, are just sufficient to permit a line of demarcation. The beginning of the Iron Age is placed at that point where jugs with cut-away necks with twisted handles begin to appear.

Four Periods are thus obtained: an Early (A), Middle (B) and Late (C) Bronze Age, and an Iron Age (D).[1]

The standard sequence is based on the Pits A–E, supplemented by Pits A 1–C 1. Material for the Early Bronze Age was greatly amplified by the deposits in Q 1, Q 2, Q 3, of which Q 3 was found to be quite, and Q 1 and Q 2 almost uncontaminated, and by Pit Z: similarly, material for the Iron Age was enlarged by the finds from A 3, though this was only carried down to the bottom of the third half-metre. The Mycenaean material comes almost entirely from the unstratified Pits A 2–E 2.

(i) *The Pottery.*

Neolithic Period. No stratified deposit of the Period was found, but six sherds of the kind that are known to be neolithic from other sites in Macedonia[2] turned up at various levels. Fig. 5, 5, found in the Early Bronze Age stratum, is the only one which can be in its true stratified position. The sherds are either white on black-polished (*ibid.* 1*a*, 2, 3) or black (or purplish) on red. No. 1*a*, 1*b* has a special interest, since it

[1] Diagram to illustrate division into Periods (based on Pits A–E, A 1–C 1).

Depth.	Period.	Distinctive Wares.
Virgin soil to *ca.* 12 m.	A	A 1α, A 1β, etc., Incised 1.
12–8·50 m.	B	A 1γ (wish-bone handles), Incised 2.
8·50–3·50 m.	C	C 2 (*Mattmalerei*), Incised 3.
3·50 m. to surface.	D	A 1 (Jugs with twisted handles), D wares, etc.

In the illustrations, in addition to the designation of the pit, Arabic numerals indicate depth in half-metres below top of Pit A. US. = unstratified.

[2] *E.g.* Várdino, Hágios Mámas, Kritsaná, Olynthus.

is white on black-polished on one side, and black on red on the other. No. 3 is the inside of a slightly incurving rim.

Period A. Early Macedonian Period.

Virgin soil to 12 m., and Pits Q 1, 2, 3 (2 m., 3·50 m., and 5 m. deep, respectively).

A 1. *Monochrome undecorated.* In general, this does not differ from that known from other strata of the same Period (*e.g.* Vardaróftsa,

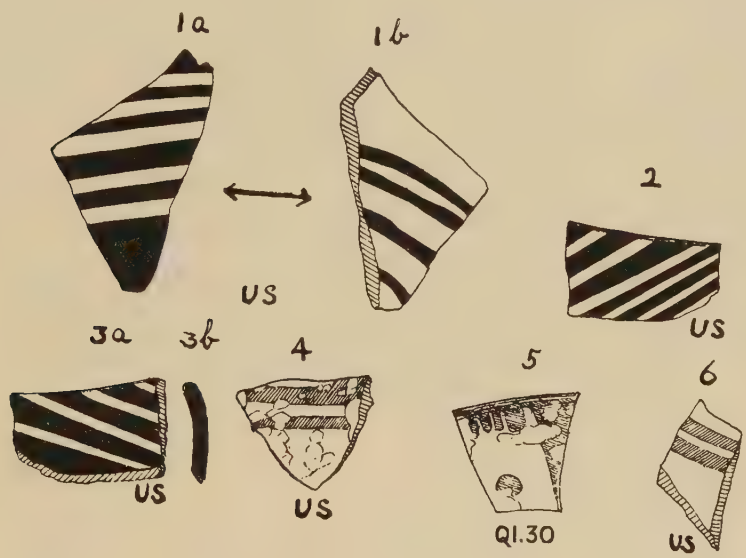


FIG. 5.—NEOLITHIC PERIOD.

Hágios Mámas, Kilindir, etc.). As usual, the clay is gritty. The tendency is towards a grey to black surface (often slipped and polished), but light-faced and mottled fabrics are quite common. The shapes shew little divergence from the well-known types. They are :

A 1α. *Bowls with incurved rim* (Fig. 6, 1–4, Fig. 7, 1–3, 5); sometimes with a pinched-out spout (Fig. 6, 2 and Fig. 8, *b*); sometimes with a side spout (Fig. 6, 1); tubular lugs (Fig. 10, 4) belong to such bowls.

A 1δ. *Small cups with loop handles* (Fig. 9, *a*, *b*). These have rounded bases.

Miscellaneous shapes. These are mostly inferred from fragments, on the analogy of shapes known from corresponding strata elsewhere.

FIG. 6.—PERIODS A AND D: 1–5, Period A, Bowls with incurved Rim (A 1α); 6–8, Period C, Handles (A 1γ). (Scale 1 : 2.)

Two-handled tankards (Fig. 8, *a*).

Jugs with cut-away necks,[1] one or two.

Jars with wide necks[2] *and jars with cylindrical necks*,[3] both with tubular lugs.

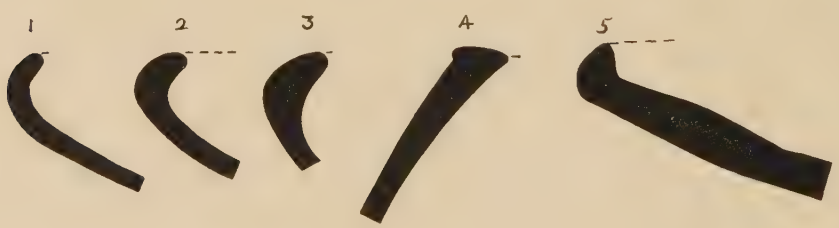


FIG. 7.—PERIOD A. BOWLS (A 1α), ETC.
1 = Fig. 6, 4; 2 = *ibid.* 3; 3 = *ibid.* 2; 4 = *ibid.* 5. 5, Q 1, 29.

[1] Cf. *Chalcidice*, Fig. 37, 2, 3.
[2] Cf. *ibid.* Fig. 10, 12. [3] Cf. *ibid.* Fig. 17, c; also Kritsaná (not yet published).

Deep one-handled bowls with slightly everted rims (sometimes with a pinched-out spout).[1]

Small jugs with cylindrical neck (cf. Fig. 10, 7, in A 2 ware).

Bowls with ribbon-handles (Fig. 10, 1).[2]

E 29.

E 31. D 24.

FIG. 8.—PERIODS A, B. MONOCHROME UNDECORATED (A 1).
a, *b*, Period A; *c*, Period B. (Scale 1 : 3.)

A barrel-shaped vase with a flattened rim and a tubular lug handle (Fig. 6, 5 = Fig. 7, 4), a possible sauce-boat (Fig. 10, 8), may be mentioned, and there are a few ribbed and split handles (*ibid.* 6), though the shape of the vases to which they belong is uncertain. There are two examples in which the ends of the upright loop-handles have a kind of

[1] Cf. *Chalcidice*, Fig. 38, 8. [2] Cf. *Vardaróftsa*, Pl. IV, 12.

ribbed extension down the side of the vase. There is also a fragment of a vase with a stem (*ibid.* 2), and of a vase with a ' cupped ' base (*ibid.* 3).

Miscellaneous shapes.

A curious flat bilobate handle: a ladle (Fig. 9, *c*), the fore-part of a four-legged zoomorphic vase, and a perforated base.

A 2. *Black-polished ware.* There is a large wish-bone handle in this fabric (Fig. 10, 5); also the cylindrical neck of a jug, shewing below the rim the hole for a rolled handle (*ibid.* 7). Round the hole the black-polished slip has flaked off. *Ibid.* 9 is the fragment of a bowl with everted rim and a fluted shoulder.

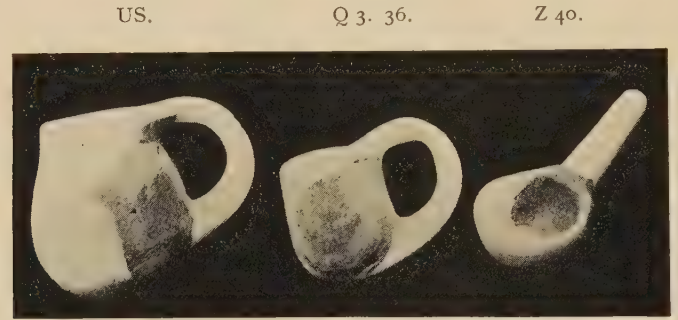


FIG. 9.—PERIOD A. MONOCHROME UNDECORATED (A 1). (Scale 1 : 3.)

A 3. *Striated ware.* Fairly common.[1]

A 4. *First Incised Style.* Within the limits of the stratum occur sherds which, on the analogy of Vardaróftsa, might be classed as belonging to the Second Incised Style, but, unless we regard them as out of their stratified position, for which there appears no satisfactory reason, we must treat them as transitional pieces, anticipating the band style which is more characteristic of Period B. Thus, on the stratigraphic evidence, Fig. 11, 1–3 (reddish ware with wedge-shaped pits filled with white chalk) and 4 (black, with latticed triangles between bands with spiral terminals) must be included here, and the latter suggests that the fully-developed spiral bands at Vardaróftsa may after all prove to be natural

[1] Cf. *Vardaróftsa*, Pl. VI.

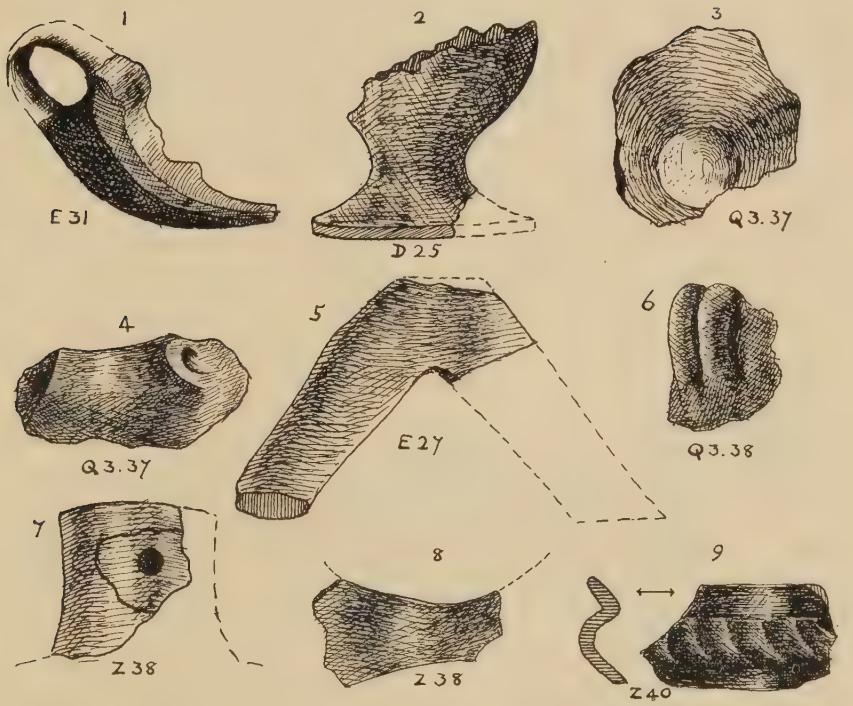


FIG. 10.—PERIOD A. 1–4, 6, 8, MONOCHROME UNDECORATED (A 1); 5, 7, 9, BLACK-POLISHED (A 2). (Scale: 1, 2, 1 : 4; 3, 1 : 2; 8, 1 : 3; remainder, 2 : 5.)

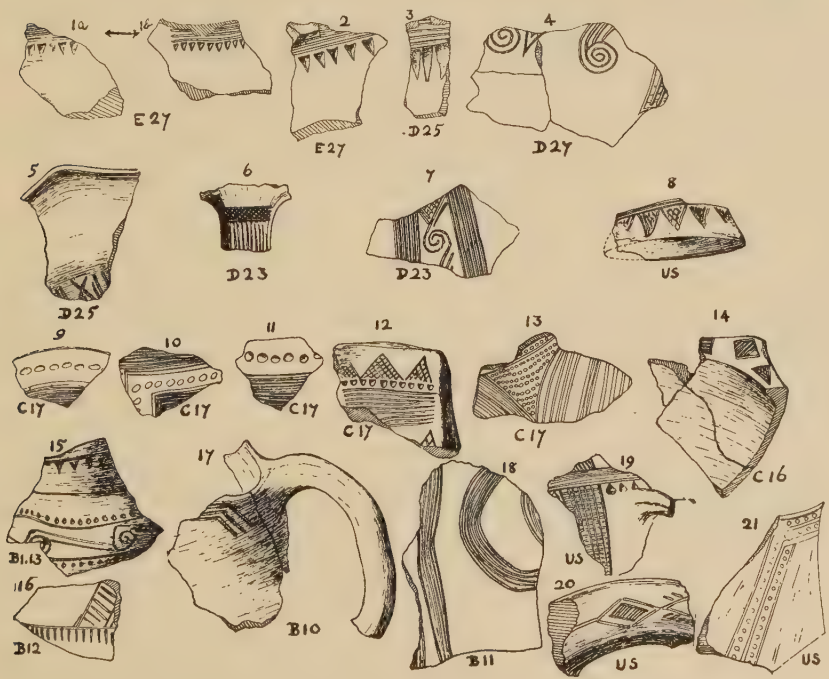


FIG. 11.—PERIODS A, B, C. 1–5, INCISED 1 (A 4); 6–8, INCISED 2 (B 3); 9–21, INCISED 3 (C 1). (Scale 1 : 4.)

developments of earlier and simpler motives. *Ibid.* 5 has a pulled-out rim and may therefore be part of a bowl with wish-bone handle. Fig. 12 illustrates examples of a rougher class. Nos. 1–3 are impressed rather than incised.[1]

Some incurving rims have closely-set vertical grooves which present almost the appearance of rippling.

Coarse Ware. Fragments of almost straight-sided cooking-pots are common. They have either blunt ledge-shaped, or scalloped lugs,[2] and

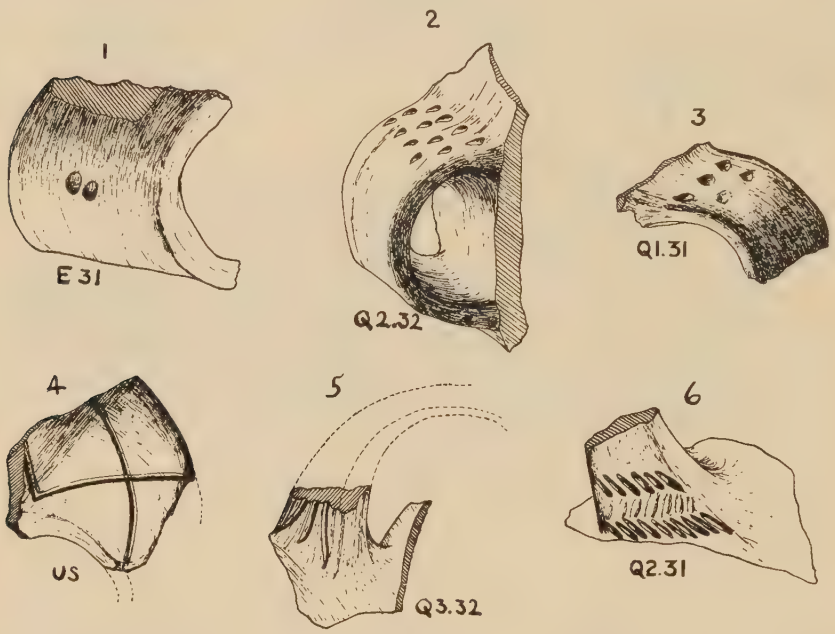


FIG. 12.—PERIOD A. INCISED 1 (A 4), COARSE. (Scale *ca* 1 : 3.)

are often decorated with diagonal slashes along the rim or with wedge-shaped incisions below it,[3] or sometimes with impressed strips. The ends of the handles of some coarse vessels are often stuck through the walls. The typical wide dishes or basins with perforation below the rim also occur.[4]

[1] No. 4 has numerous parallels elsewhere. Cf. *Chalcidice*, Fig. 13, 4, p. 134, note 2.
[2] Cf. *Vardaróftsa*, Pl. VII (*b*).
[3] Cf. *Chalcidice*, Fig. 11, 5, Fig. 15, 1, 3.
[4] Cf. *ibid.* Fig. 11, 8.

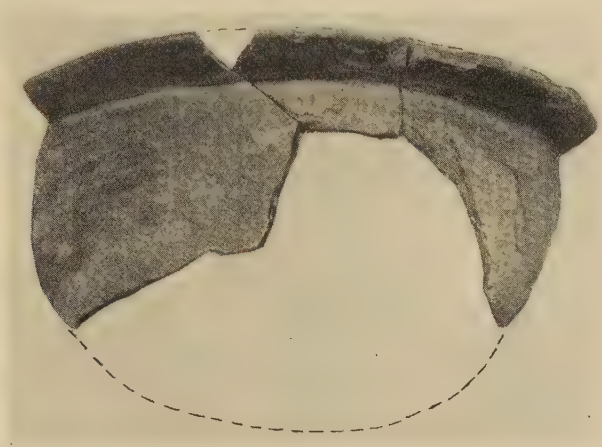
Period B. Middle Macedonian Period. 12–8·50 m.

As elsewhere in Macedonia, there is a steady increase in light-faced wares until, towards the end of the Period, they predominate. As elsewhere, the bowl with incurved rim is replaced by the bowl with wish-bone handle (A 1γ) which has usually a straight rim and is often incised (B 3).

A 1. *Monochrome undecorated.* Shapes are :

A 1α. *Bowls with incurved rim* : a few.

A 1β. *Askoi* : one, inferred from a handle, which, however, might belong to a jug with cylindrical neck.



D 22.

FIG. 13.—PERIOD B. MONOCHROME UNDECORATED (A 1). (Scale 1 : 3.)

A 1γ. *Bowls with wish-bone handles.* Common. Since no conical foot was found in this stratum, they probably had flat bases. Fig. 13 is a deep bowl with everted rim, which perhaps had a wish-bone handle; at any rate the rim is pulled out at one point in the manner characteristic of this kind of vase.[1] Large patches of the brown polished surface have flaked off.

There is one fluted sherd.

Miscellaneous. Fragments of biconical urns,[2] of jugs with cylindrical necks, part of a thin bowl with everted rim and a fine polished red surface,

[1] Cf. *Vardaróftsa*, Pl. III (*a*).

[2] Cf. *ibid.* Pl. VIII (*a*).

and a curious box-shaped vase with a spout and a ribbed handle, in a fabric similar to that of Fig. 13 (Fig. 8, *c*).

A 3. *Striated.* Fairly common.

B 1. *Tool-marked.*[1] This fabric, which was not noted in the First Period, is now fairly common. Bowls with wish-bone handles are made in it.

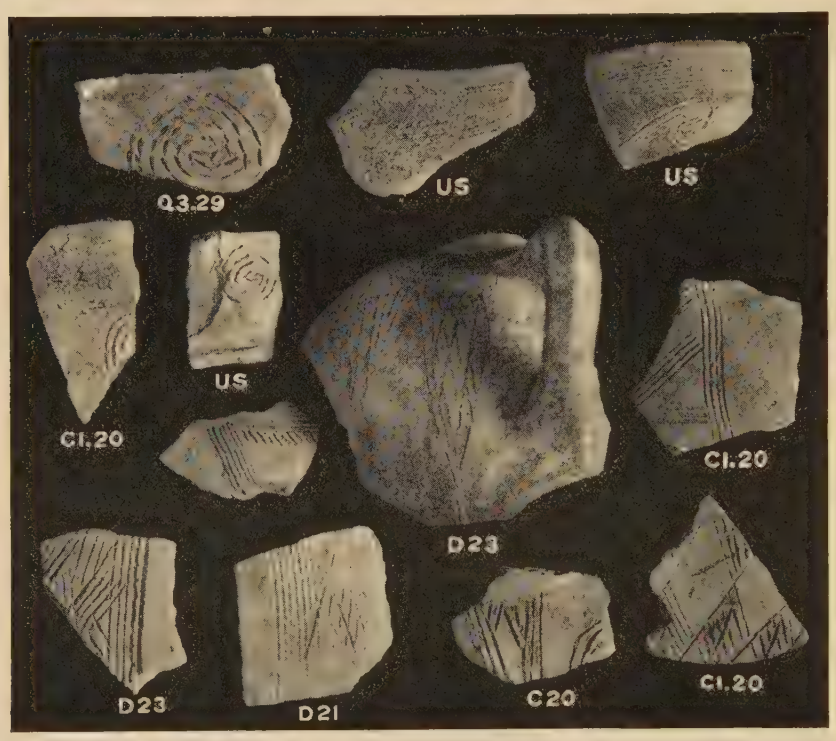


FIG. 14.—PERIOD B. INCISED 2 (B 3). 8, US. (Scale 2 : 5.)

B 3. *Second Incised.* The distinctive mark of this category is the use of broad bands, composed of parallel lines (sometimes produced by a toothed instrument), and the fondness for spiraliform motives. Otherwise the decorative elements seem to have been taken over from the First Incised. In fabric it does not differ from the plain ware, and dark- (Fig. 11, 7) or light-faced (Fig. 14, 7–12), as well as black-polished specimens (*e.g.* (Fig. 11, 6, 8) occur. The incision is made with a fairly sharp instrument;

[1] Cf. *Vardaróftsa*, p. 17.

white filling is found, but is rare (Fig. 14, 3). Fig. 11 (6–8) and Fig. 14 illustrate the principal fragments. Of these, Fig. 11, 8 (a conical foot) and Fig. 14, 1–3, 5, though unstratified, must, on the analogy of Vardaróftsa, be assigned to this Period.[1]

The only recognisable shape is a two-(?)handled mug (Fig. 14, 6).[2]

Coarse Ware is rare and does not call for comment.

Period C. Late Macedonian Period, 8·50–3·50 m.

A 1. *Monochrome undecorated.* Shapes are :

A 1α. *Bowls with incurved rim* : a few.

A 1γ. *Bowls with wish-bone handles* : very common.

Three trimmed conical feet probably belong to these vases.[3] The rims are sometimes slightly incurved. One handle has a forked end.

Miscellaneous shapes.

Jugs with cut-away or sloping necks. Fairly common; one is black-polished (A 2).

Bi-conical urns : three. Fig. 15 approximates to this type; it has pierced lugs, and a pointed base.[4]

Round Cups with everted rims : some of these are of the fine polished yellow ware, which is indistinguishable from yellow Minyan on the one hand and from unpainted specimens of Macedonian *Mattmalerei* (C 2) on the other. One has a high band handle (Fig. 16, *b*).

A deep bowl with an almost upright handle rising from the rim[5] (Fig. 17) belongs to the very end of the Period.

B 1. *Tool-marked ware.* Common : many bowls with wish-bone handles are in this fabric.

C 1. *Third Incised* (Fig. 11, 9–21). This style differs from the Second, of which it seems to be a continuation, in the greater carelessness with which the incised bands are executed. Small circular pits take the

[1] Cf. *Vardaróftsa,* Pl. IX (*a*).

[2] The handle is angular in section.

[3] Cf. *ibid.* Pl. III (*a*). They seem to have been used as supports for other vases, or, turned upside down, as receptacles.

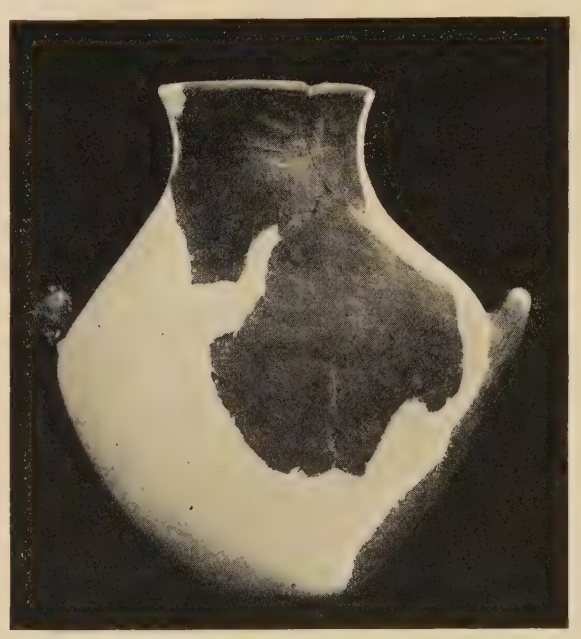
[4] Unstratified, but assigned here.

[5] Probably two-handled. Cf. *B.S.A.* xxviii, p. 173, Fig. 21, 12 (from Bouboústi), which has parallels at Páteli.

place of the wedge-shaped incisions: white filling is more common. Shapes are:

A two-(?)handled tankard (Fig. 18), like Fig. 14, 6, but with rolled handles.[1]

Jugs with cut-away or sloping necks. Fig. 11, 17 is in red-brick fabric. One has an incised band at the base of the neck. *Ibid.* 15, perhaps a jug of this class, deserves notice. It is in light yellow fabric, and the



US.

FIG. 15.—PERIOD C. MONOCHROME UNDECORATED (A 1). (Scale *ca.* 1 : 4.)

running spirals may be compared with the similar painted (false) spirals on a contemporary bowl from Kilindir.[2]

Fig. 19 belongs to the end of the Period: with its precise and orderly decoration it recalls the First Incised Style on the one hand, and anticipates on the other the Incised Style of the following Period. It has a buff surface and chalk-filling.[3]

[1] White filling inserted to bring out the pattern.

[2] *Antiq. Journal*, vi, Pl. XIV.

[3] Both it and Fig. 11, 17 have a good deal in common with the Fourth Incised Style of Vardaróftsa. Cf. *Vardaróftsa*, Pl. XIV (*b*).

A sherd resembling *Schnurkeramik* [1] was found at the lowest level of this stratum.

C 2. *Matt-painted ware.* Rare. Fig. 16, *a* shews a raking handle decorated with carelessly drawn spiral coils. *Ibid. c* is an unstratified fragment of a bowl with flattened rim : in both cases the paint is purple. Fig. 20, *a* is a jug with tall cut-away neck : it has a band of red paint at the base of the neck. There is one fragment of the coarse variety, the handle of a jug with a band of purple paint below the rim.

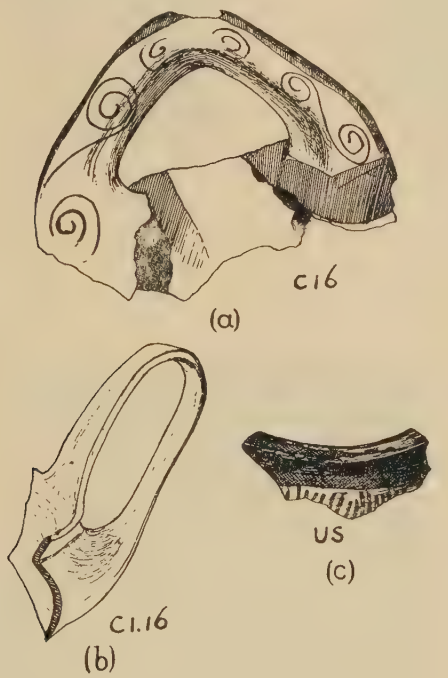


FIG. 16.—PERIOD B. (Scale *ca.* 1 : 2.)

Mycenaean (L.H. III *a*, *b*).

A large quantity, mostly unstratified.

Shapes are :

Kylixes. Fig. 20, *d*, has good red varnish on a yellow slip, and red varnish inside. Careless octopus pattern; horizontal bands round the stem; *ibid. e*, fragment of a similar vase has a conventionalised floral pattern.

[1] Cf. *Chalcidice*, Fig. 12, 6.

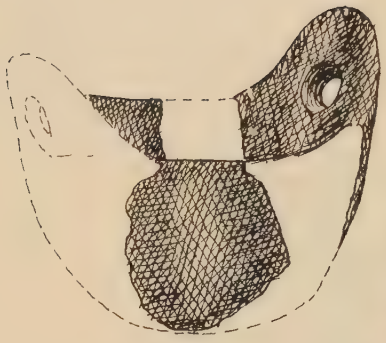


FIG. 17.—PERIOD C. MONOCHROME UNDECORATED (A 1). (Scale 1 : 4.)

B 14.

FIG. 18.—PERIOD C. INCISED 3 (C 1). (Scale 2 : 5)

C 13/14.

FIG. 19.—PERIOD C. INCISED 3 (C 1).
(Scale 1 : 3.)

Stemmed kraters (?) (*ibid. c*). Horizontal zones.

Jars with high necks with concave profile (Fig. 21, 6, 7). There is one straight-necked jar with an offset rim.

Bowls with slightly everted rims and loop handles (Fig. 20, *b*, Fig. 21, 3–5 and Fig. 22). The typical L.H. III shape. The last example has good red varnish on a yellow slip.

Small one-handled jars (Fig. 23, 2, 4, 5): decorated with horizontal painted zones. No. 2 has a wavy band on the shoulder between the zones.

Jars with spreading lip and three small loop-handles on the shoulder (*ibid.* 3 and Fig. 21, 1). The former has horizontal zones at base of neck and below handles; running quirks on the shoulder.

A stemmed vase with three small loop handles on the shoulder (Fig. 23, 1): horizontal zones as in last example; on the shoulder a row of vertical strokes.[1]

A wide bowl with handles of flat strips of clay[2]: completely covered with reddish-brown varnish.

Jug with cut-away neck.

Fig. 21, 8–10 are fragments from vases of uncertain shape.

Like most of the Mycenaean vases from Macedonia, those from Saratsé are almost all made of local clay.

Little coarse pottery was found in this stratum.

Period D. Early Iron Age. 3·50 m.–surface.

The pottery of this Period is almost identical in form and decoration with that already familiar from Central Macedonia, and, to a less extent, from Chalcidice. The fabric, however, as compared with that from Vardaróftsa and Várdino is better, vase-walls being remarkably thin, even in hand-made examples. Brown and light-faced wares are more common than grey.

Hand-made.

A 1. *Monochrome undecorated.* Shapes:

A 1γ. *Deep bowls with flat narrow rims.* The typical Iron Age deriva-

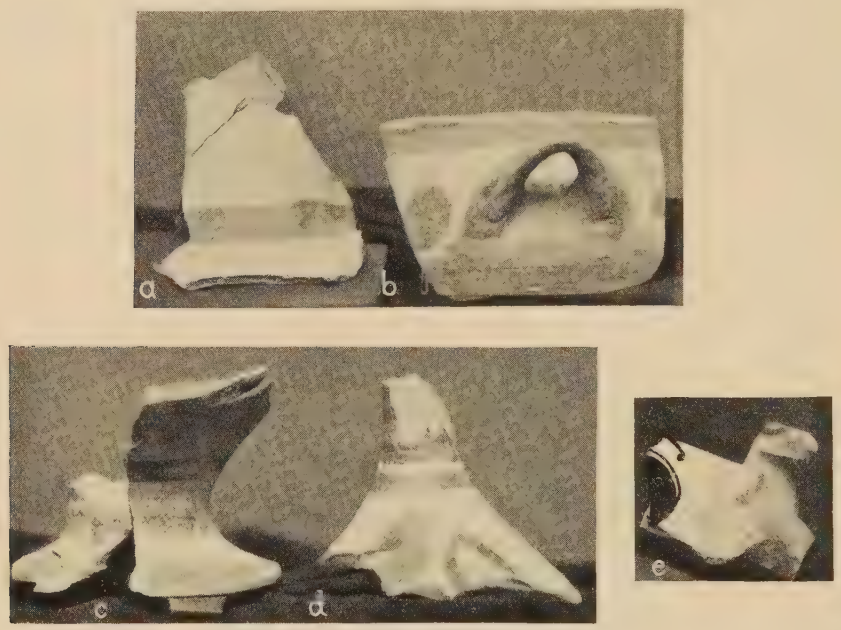
[1] All the examples shewn in Fig. 23 have been discoloured by fire.

[2] Cf. *B.S.A.* xxv, Fig. 33, *b*, *d* (from Mycenae). From it a common Macedonian Iron Age type is derived, *B.S.A.* xxvi, p. 15, Fig. 6, *e–g*.

tive of the bowls with wish-bone handles. The handles are either wish-bone handles set horizontally (though examples at the usual angle occur),[1] or else " trigger " or " thumb-grip " handles, which rise almost vertically from the rim (Fig. 6, 6–8). Some of these handles are shaped like the tail of a bird, to which perhaps, in one case, corresponded a duck's head on the opposite side of the vase (Fig. 24).

A 1δ. *Small loop-handled cups* (Fig. 25, *b*, *c*).

Jugs with cut-away necks and twisted or, rarely, grooved handles.



All US.

FIG. 20.—PERIOD C. *a*, MATT-PAINTED (C 2); *b–e*, MYCENAEAN (LH III *a*, *b*). (Scale *ca.* 1 : 3.)

One jug has a circular depression at the base of the handle. The practice of sticking the handle-end through the wall of the vase still persists.

Wheel-made.

D 1, D 2. *Fifth and Sixth Incised Styles* (Fig. 26). Shapes, in general, the same as in the undecorated ware (A 1).

[1] One is shaped like a spur.

(1) *Jugs with cut-away necks. Ibid.* 14 is perhaps from the shoulder of one of these jugs.

(2) *Deep bowls* (as in the undecorated ware A 1γ).[1] The rim is sometimes pulled out horizontally to form a lug and pierced (*ibid.* 3, 8, 11, 12). One has a wide trough spout with flanged edges (*ibid.* 10). Sometimes the rim is narrow (*ibid.* 5), sometimes broad (*ibid.* 1, 2, 6, 7, 9). The decoration consists of simple elements, neatly executed; wedge-shaped incisions, rows of hatched triangles filled with dots, etc. (*ibid.* especially 6). It is concentrated exclusively on rims and lugs.

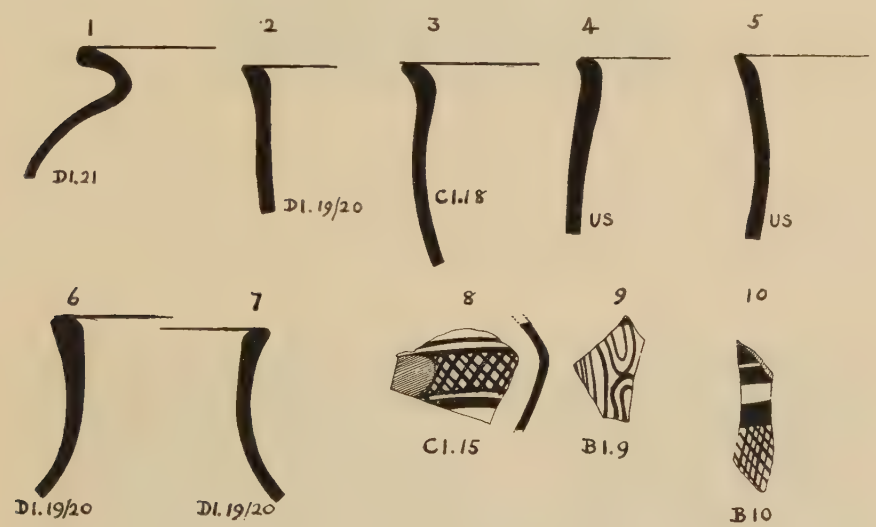


FIG. 21.—PERIOD C. MYCENAEAN (LH III, *a*, *b*.)

Side by side with this unpolished ware with its strictly rectilinear repertory are a few polished sherds of different fabric with curvilinear motives. *Ibid.* 4, 15–17 seem, in fact, to belong to another tradition, and the two latter look like attempts to produce by incision the concentric semicircles of the contemporary painted ware. No. 16 has pink filling.

Wheel-made.

D 3. *Grey monochrome.* Usually decorated with horizontal grooves. Shapes:

High-handled kantharoi, as at Vardaróftsa,[2]

[1] Cf. *Vardaróftsa*, Pl. XVIII (*b*).

[2] Cf. *ibid.* Pl. XX (*a*), 1.

An amphora with wide neck and two upright loop handles on the shoulder, and a low foot (Fig. 25, *a*).

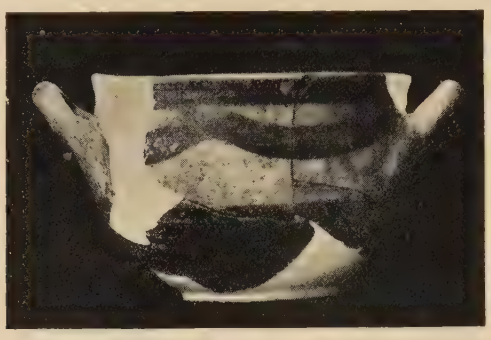


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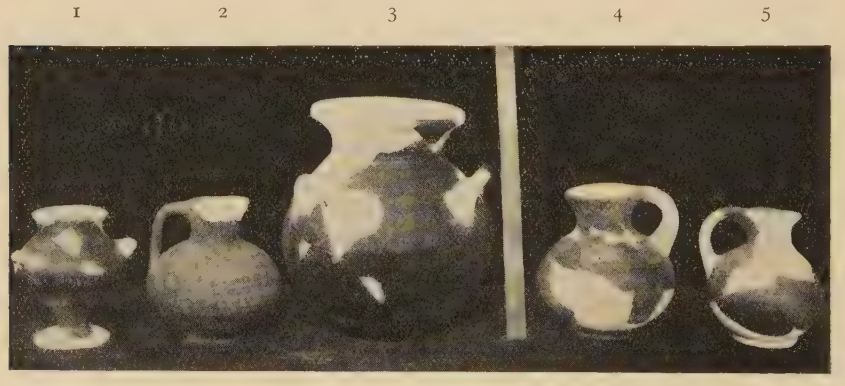
FIG. 22.—PERIOD C. MYCENAEAN (LH III *a* or *b*). (Scale 2 : 7.)

D 4. *Matt-painted.* The paint may be black, brown, red or purplish. The decoration is lifeless, and consists of incoherent strokes [1] or careless compass-drawn concentric circles (Fig. 28, 5, 6, 10). The ware is so



All US.

FIG. 23.—PERIOD C. MYCENAEAN (LH III *b*). (Scale 1 : 7.)
In No. 1 the foot should be smaller.

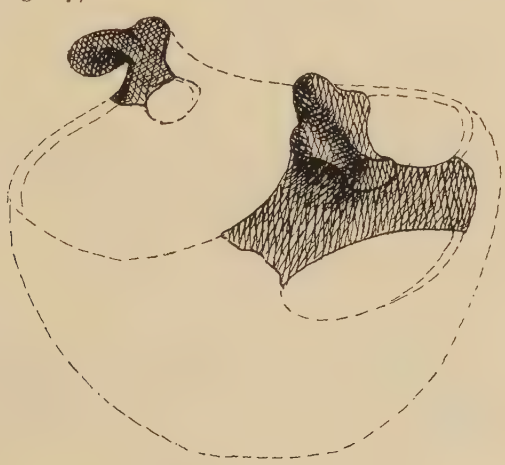
fragmentary that little can be said about the shapes, but one piece seems part of a jug with cut-away neck.

D 5. *Varnished ware.* Derived from the Mycenaean, is of far better quality than D 4. The paint is usually purplish. The decorative elements

[1] Cf. *Vardaróftsa*, Pl. XXI (*a*).

are mostly compass-drawn concentric semi- or three-quarter circles. Both D 4 and D 5 are the Macedonian equivalents of Protogeometric and Geometric. Shapes :

(1) *Bowls with incurving flattened rim and horizontal loop-handles* (Fig. 28, 3, 4; Fig. 27).



A 1. 6.

FIG. 24.—PERIOD D. MONOCHROME UNDECORATED (A 1). (Scale 2 : 7.)

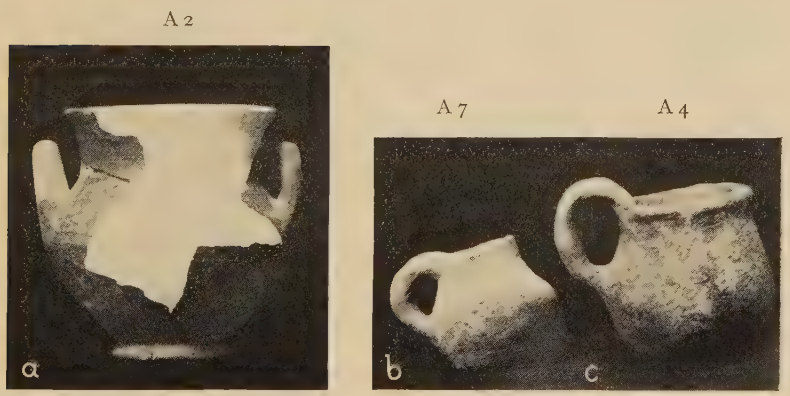


FIG. 25.—PERIOD D. *a*, GREY MONOCHROME (D 3) ; *b*, MONOCHROME UNDECORATED (A 1). (Scale 2 : 7.)

This type frequently has a bridge spout.[1]

(2) *Bowls with everted rim and loop-handles :* derived from the usual Late Mycenaean type, but with a more accentuated lip and shoulder (*ibid.* 1). Decoration as in the preceding.

[1] Cf. *Vardaróftsa*, Pl. XX (*b*) 3.

(3) *Deep bowls* (*cf. the A* 1γ *type*) : were also decorated with varnish paint (*ibid.* 2).[1]

(4) *Wide bowls with handles of flat strips of clay :* decorated with horizontal bands (cf. p. 133, note 2).

Three sherds of fluted (Danubian) ware, as at Vardaróftsa, were found.

No coarse ware was found.

FIG. 26.—PERIOD D. INCISED.

1–3, 5–14, INCISED 5 AND 6 (D 1, D 2). (Scale 1 : 4, except 4, 5, which are somewhat smaller.)

(ii) *Miscellaneous Objects.*

Stone.

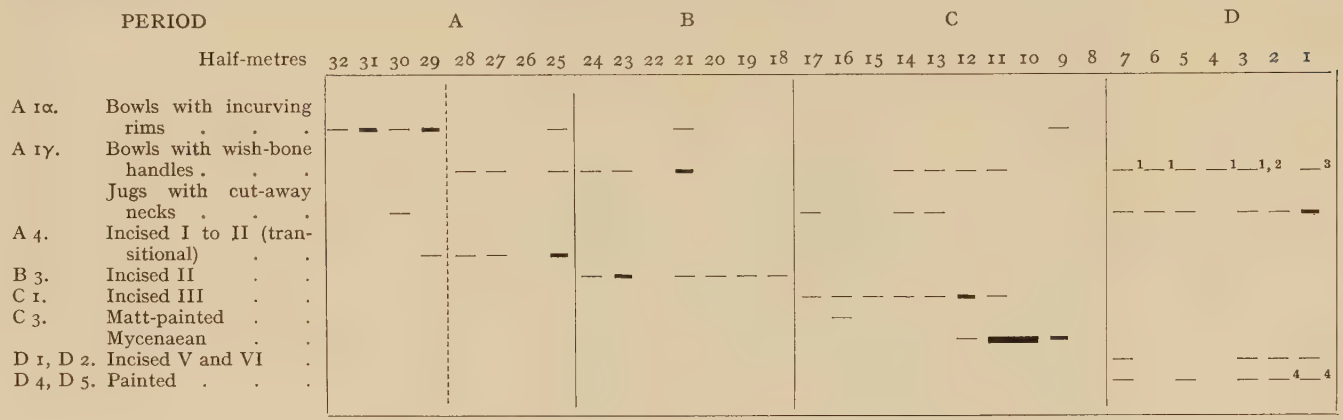
Period A. Celts or axes : plain, five, two broken (Fig. 29, 1, 5, 7 and Fig. 30) : [2] bored, three, all broken (Fig. 29, 4 and Fig. 30, 5).[3]

[1] The vase to which this handle belongs is decorated with concentric semi-circles. The ' join ' was discovered recently by Mr. Skeat.

[2] Fig. 29, 1 (= Fig. 30, 1), though found in a contaminated stratum, is assigned to Period A. The stone of No. 5 is ' tuf volcanique metamorphosé.'

[3] The stone of the latter is ' grès.'

The following diagram illustrates the stratified position of the principal pottery types: it is based on pits A–E (A 1 being substituted for A as being more productive). The area represented in each half-metre is 2 × 2 m.


PERIOD
A
B
C
D
Half-metres
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
A 1α. Bowls with incurving rims
A 1γ. Bowls with wish-bone handles
Jugs with cut-away necks
A 4. Incised I to II (transitional)
B 3. Incised II
C 1. Incised III
C 3. Matt-painted
Mycenaean
D 1, D 2. Incised V and VI
D 4, D 5. Painted
1 1 1 1, 2 3
4 4
— = 1 or 2. — = 3 or more — = 10 or more.

Biconical urns . . . . . 1 in 23, 1 in 17.
Ribbon handles . . . . . 1 in 31, 2 in 30, 1 in 27.

The vertical dotted line indicates a subdivision of Period A, transitional to Period B.

[1] Iron Age form. [2] Painted (D 5). [3] Incised (D 2). [4] Concentric circles.

Whetstones : two (Fig. 32, 6).

Querns : round, one.

Pounders : one.

Period B. Celts or axes : plain, one (Fig. 29, 2 = Fig. 30, 6).

Blades : one, flint (Fig. 32, 14).

Period C. Celts or axes : plain, two.

Whetstones : one (Fig. 32, 7).

Period D. Axes : one, of micaceous schist (Fig. 29, 6) : perhaps votive, as it is too friable for use.

Whetstones : three (Fig. 32, 8–10).

Querns : one, of soft micaceous stone.[1]

US.

FIG. 27.—PERIOD D. VARNISHED WARE (D 5). (Scale 5 : 6.)

Miscellaneous : mould for making bronze ornaments (*ibid.* 11).

Cone-shaped hollow object.

Unstratified. Celts or axes : three, two plain (Fig. 29, 3, 8 and Fig. 30), one perforated (broken).

Whetstone : one with a barred line incised on it (Fig. 32, 12).

Blade : one, flint (*ibid.* 13).

Quern : one.

Arrowhead : one, of whitish flint (Fig. 30, 7).

Terracotta.

Spindle-whorls, or Buttons?

Period A. Spheroid, but flattened at top and bottom : four.

Biconical, but flattened : two.

[1] Cf. *Vardaróftsa*, p. 33, note 1.

Cylindrical : two.
Conoid : one.
Period C. Biconical : two.
Period D. Flattened spheroid : one.
Biconical : four (one decorated with punctured holes).

FIG. 28.—PERIOD D. 5, 6, 10, MATT-PAINTED (D 4); REMAINDER VARNISHED (D 5). (Scale *ca.* 1 : 3.)

Unstratified. Reel-shaped : one (unperforated).
Flat, disc-shaped : one.
Biconical : one (with punctured holes in upper half).

Lids.

Period A. Five : two perforated, one half-perforated, two plain.

Period D. Two : one with raised centre (Fig. 32, 2), one with two perforations (*ibid.* 3).

Unstratified. Two : one has raised knobs : the other is a chipped potsherd of Second Incised ware (*ibid.* 4).

FIG. 29.—STONE CELTS AND AXES. PERIODS A, B, D. (Scale 1 : 3.)
Period A, 1, 4, 5, 7; Period B, 2; Period D, 6.

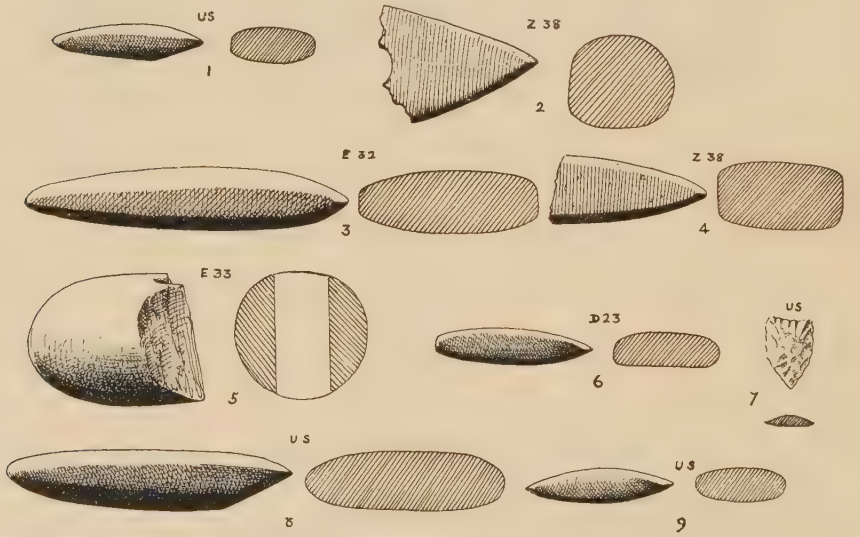


FIG. 30.—STONE CELTS AND AXES. ALL PERIODS. (Scale 2 : 5.)
Period A. 1 = Fig. 29, 1; 2 = *ibid.* 4; 3 = *ibid.* 7; 4 = *ibid.* 5; 5.
Period B. 6 = *ibid.* 2. US. 7; 8 = *ibid.* 8; 9 = *ibid.* 3.

Spit-supports.

Period A. Conoid, round in section, one.

Conoid with blunt top, angular in section, nine.

Period C. Conoid, round in section, one.

Unstratified. One of either type.

Miscellaneous. Anchor ornaments (amulets).

Period A. One: broken (*ibid.* 1).

A fragment of a crucible, and a bean-shaped object also belong to Period A.

Unstratified. A miniature model of a chair (*ibid.* 5).

Q 3. 37.

FIG. 31.—GOLD HAIR-RING, PERIOD A. (Scale 4 : 5.)

Metal.

Gold.

Period A. Hair-ring of twisted wire (Fig. 31).[1]

Piece of slag.[2]

Unstratified, but probably Period B. Gold slag: one piece.[2]

[1] Of the gold hair-ring, Mr. W. E. Woodward writes provisionally:

'(1) I do not know whether the material was melted in the process of manufacture or not, it might have been hammered together in some hot state.

'(2) I am nearly certain that the ring has been produced by means of a die: one end is nice and circular where it entered, and the other end looks as if it had been nicked to break it off a longer piece of wire.

'(3) Some time or other the ring has been heated, whether intentionally to remove the drawing strains I do not know, or because the village happened to get burned down. Of course both of these things may have happened and we cannot tell.

'(4) The wire of which the ring is formed is so nearly circular that I do not believe it is possible to have produced such a good article by hammering.'

[2] Mr. O. Davies says of these pieces: 'This (the unstratified piece) is of the same character as others that I have examined. It is very friable, and there are few stains of iron. I could not discover traces of gold in it, but I think it is almost certainly a gold slag.'

Of the piece from Period A: 'This slag is almost exactly the same as the last, except that it is rather darker, which indicates perhaps the presence of a little more iron in combination; but nothing should be made of this, and though I could find no traces of gold, I feel certain that it is not to be separated from the other slags above.'

Copper or Bronze.

Period A. Copper blade.[1]

Copper slag : one piece.[2]

Period B. Copper slag : one piece.[3]

[1] Mr. O. Davies writes : ' Externally this looked like a large lump of earth stained with copper carbonate; but when cleaned it turned out to be a portion of a blade in shape trapezoidal, about 1 inch long and ½ inch broad at the narrowest end. It was impossible to make out definitely if it was broken, but it appeared to have an edge at the smaller end and along one side.''

Analysis : Cu 92·43%
Sn ·09
Pb 1·49
As 5·88
Fe ·06
Co ·02
Zn ·03

No Sb., Aq., Bi., Ni.

[2] ' The original was entirely rusted away and only stains were left.

Analysis : Cu 11·63%
Sn 2·51
Aq tr.
Sb ·37
Pb ·60
As ·75
Co ·05
Fe 5·05
Bi ·11
Zn 1·49
Ni none

SiO_2 33·97

The piece was so rusted that it was very difficult to say what the original character of the metal was. But both zinc and tin do not dissolve, and as calamine was not intentionally added to copper until very late Greek times and zinc percentages were never very high before that, it is probable that the tin figures should be marked down also, and the piece is copper, not bronze. The iron percentage is high, but it is quite likely that some was introduced from water or the earth with which the specimen was inextricably mixed. The silica estimate represents this earthy matter.' (O. Davies.)

[3] ' The piece was completely converted into CuO, and there were traces of $CuCo^3$ all through.

Analysis : Cu 40·91%
Sn 6·76
As ·56
Sb ·06
Pb ·17
Zn ·29
Co ·05
Ni tr.
Fe 4·78
Bi ·17
Aq none

This may be described as a poor-tin bronze, as probably a certain amount of copper has dissolved away.' (O. Davies.)

Unstratified. Copper blade (?).[1]
Copper slag: one piece.[2]

Bone.

Period A. Borers: three (Fig. 33, 2, 4).
Period D. Borers: one (*ibid.* 8).
Unstratified. Borers: several (*ibid.* 3, 5, 9).
Pins: one with carved head (*ibid.* 7).

FIG. 32.—MISCELLANEOUS STONE AND TERRACOTTA OBJECTS. (Scale 1:3.)
PERIOD A, 1, 6; PERIOD B, 14; PERIOD C, 7; PERIOD D, 2, 3, 8–10.

Horn.

Period A. Hammer: one, with socket on both sides for hafting (*ibid.* 1).
Period D. Tip of antler (deer) cut and polished (*ibid.* 6).

(iii) *Structural Remains.*

Period B.

Pit D 1. 26th half-metre. A well-built wall of dry masonry, 1 metre wide and standing 1 metre high, running parallel to the edge of the

[1] 'Also a poor-tin bronze.' (O. Davies.)
[2] 'This is probably copper, with some old scraps of metal introduced, which accounts for the tin percentage.' (O. Davies.)

mound. Near the eastern margin of the pit this was joined at right angles by a smaller wall 45 cm. wide. The point of junction was marked by a post-hole, 30 cm. square.

Pit D. 23rd half-metre. Traces of a badly built wall of dry masonry were found. These were too much ruined to be measured with any accuracy.

FIG. 33.—HORN AND BONE TOOLS. (Scale 1 : 3.)
PERIOD A, 1, 2, 4; PERIOD D, 8.

Period C.

Pit. B. 10th half-metre. Terrace wall of clay. This extended across the pit from back to front, projecting between two and three metres from the southern face. It was 50 cm. deep and there were traces of wooden revetment beams. One complete and two fragmentary pithoi were found embedded in the terrace.

Period D.

Pit B 1. 7th–9th half-metre. Mud-brick terrace wall, running across the pit from side to side and projecting about 60 cm. from the back

of the pit. This wall was about 70 cm. high. The individual bricks could not be traced, but there were traces of a wooden revetment.

Modern.

Trench A 3. 1st half-metre. Double grave containing two extended corpses, surrounded and covered by large stones. The heads lay to the north-west. The grave is quite modern and may well be that of one of the Turkish owners of the "tchiftlik." A gravestone of the same period has been dug up in the fields in the vicinity.[1]

Pieces of clay walling, shewing the impress of wooden beams or of reeds, were found in Periods A, B and C, but were most frequent in Period A.

(iv) *Animal and Vegetable Remains.*

Animal.

Period A. Bos, pig, red (?) deer, sheep or goat.
Period B. Sheep or goat, pig.
Period C. Pig, cat (?).
Period D. Deer, sheep or goat.

The only shells found were some specimens of Pinna in Period A.[2]

Vegetable.

A few fragments of charcoal found belong to Periods A or C, or were unstratified.[3]

RELATION OF SARATSÉ TO OTHER SITES.

The Early Bronze Age material from Saratsé is practically identical with that from similar strata at Vardaróftsa,[4] Kilindir,[5] Kritsaná (on the west coast of Chalcidice,[6] and, in so far as we know it, at Gona and Sedes [7] in the neighbourhood of Salonica. At all these sites the dark-faced variety predominates,[8] thus distinguishing them collectively from Hágios Mámas

[1] Cf. Rey, *Observations*, *B.C.H.* xli–xliii, p. 154, note 2.
[2] Information kindly supplied by Lt.-Col. A. J. Peile, R.A.
[3] Of these Mr. W. N. Edwards writes: 'All those that are at all identifiable seem to belong to a species of oak, which, from a consideration of the oaks still found in the neighbourhood, might be *Quercus lanuginosa*."
[4] *B.S.A.* xxvii, pp. 1–66.
[5] *Antiq. Journal*, vi, pp. 59–72.
[6] Excavated 1929 by the British School at Athens. Not yet published.
[7] *B.C.H.* 41–43, 1917–1919, pp. 143, 154.
[8] To these may be added, in W. Macedonia, Sérvia and Armenochóri (excavated by the British School in 1930, 1931 respectively).

and Molyvópyrgo (in Southern Chalcidice), where the pottery of the corresponding strata, though closely related, tends to be lighter in tone and of thinner fabric.

Whatever the explanation of this difference may be, the essential identity of the culture at all the sites is unquestionable, and Saratsé falls into place as yet another settlement of the immigrants from North-West Anatolia, whose dispersion over Chalcidice and Central Macedonia is datable by Trojan and other connections to somewhere around 2500 B.C.[1]

At the beginning of the Middle Bronze Age (*i.e. ca.* 2000 B.C.) the Minyan[2] invasion of Southern Chalcidice caused a temporary divergence of that region from the rest of Macedonia, which itself seems to have been subjected to fresh influences. At any rate, it is about this time that the bowl with incurved rim gives place to the bowl with wish-bone handle (known, however, in the earlier period) and, at Vardaróftsa, the incised spiral-bands appear.

On analogy with them, the spiraliform bands at Saratsé (Fig. 14, 1–3, 5), though unstratified, must belong to the same date. To judge, however, from the rather fragmentary finds, it is rectilinear bands enclosing patterns, and wedge-incisions that are here more characteristic. In general, during the Middle Macedonian Period at Saratsé we find a development parallel to what was going on elsewhere, but with a certain local character suggesting some degree of detachment.

The same is true of the Late Macedonian. Matt-painted pottery, though identical with that from the other sites (except Chauchitza), and from Chalcidice (which now comes into line with the rest), is rare; the Third and Fourth Incised Styles of Vardaróftsa (there continuous with the second) are hardly represented at Saratsé, where a slightly modified second style, as has been seen, takes their place. One has again the impression of seclusion but not of isolation. This seclusion was now, however, to be interrupted by the arrival of Mycenaeans, whose pottery, here very common and made of local clay, implies a Mycenaean settlement either at Saratsé itself or in the neighbourhood.

The transition to the Fourth Period (the Iron Age) occurs without any perceptible break in the stratification, which shews few traces of the

[1] Cf. *Chalcidice*, p. 185.

[2] *I.e.* the makers of Minyan pottery.

Lausitz invaders of Vardaróftsa and Várdino, but the pottery types reflect about the same admixture of new with continuous elements as was seen at Vardaróftsa, and in the twisted handles the contribution of the invaders to the composite Macedonian Geometric[1] style which now arose is here also perceptible. It is the fabric rather than the forms that is local. Saratsé thus shares during the Early Iron Age that remarkably homogeneous culture which is found all over Central Macedonia and Chalcidice[2]: that it stands in closest relation to the Vardár valley, however, is clear from the presence of the grey kantharoi, not so far attested elsewhere.

Not a single Greek[3] sherd was found, either in the large trial pit (A 3) or on the surface. Had Saratsé still been occupied at the date (the last quarter of the sixth century) to which the Kalamaria site belongs, Greek vases must surely have found their way here, and the inference is that it had been already abandoned.

CONCLUSIONS.

The excavation of Saratsé, though on a limited scale and not productive of sensational results, has increased our knowledge of prehistoric Macedonia by adding to those already excavated, a site representative of a little-explored area. It shews that that area belongs intimately to the group of mounds in the Vardár valley and around Salonica, and stands in the same collective relationship as they do to Chalcidice. By virtue, however, of its somewhat secluded position it has a special significance, since it must be typical of many a backwood Macedonian village, which was fortunate in having little or no history for 2000 years. Changes in the pottery there are, but they should be interpreted as reflections of changes which, under stress of events, were taking place among neighbours, rather than as the result of the inhabitants being involved in such events themselves. Compare the Late Bronze Age incised jug (Fig. 19) with the Early Bronze Age jugs from Hágios Mámas.[4] It is interesting, for it shews how little modification, in the interval of more than a thousand years that separates them, the character of this pottery has undergone. In view of numerous other resemblances, repeated in trivial details of

[1] Or rather, Proto-Geometric.
[2] And in W. Macedonia, at Palaiográtsiano in the Haliakmon valley.
[3] *i.e.* South Greek.
[4] Cf. *Chalcidice*, Fig. 14 (*b*).

domestic pots (and therefore more significant) and extending over an even longer period, we infer that it was more than a mere cultural bond that united this people, whose earliest settlements, we now know, extended from Southern Chalcidice in the east, southwards to the Haliakmon and Thessaly, and far up the Tserna valley in the north-west.

W. A. HEURTLEY.

TWO PREHISTORIC SITES IN CHALCIDICE (B.S.A. xxix).

Corrigenda.

P. 130, line 3, for ' or ' read ' on.'
P. 132, line 6, for ' two ' read ' four.'
P. 144, Fig. 24, for ' L.H. III *b* ' read ' L.H. III *a*, *b*.'
„ „ line 9, for ' It is all ' read ' It is almost all.'
P. 145, below Fig. 25, for ' J8 ' read ' H8.'
P. 146, below diagram, for ' A1γ ' read ' A1.'

EXCAVATIONS AT SPARTA, 1924–28.

(Plates XIX, XX.)

Introductory

The two following articles dealing with the finds from the excavations of 1924–28 at Sparta bring nearly to a conclusion the publication of the results of that undertaking. The first (pp. 151–240) comprises a description of the architectural remains from the Theatre, including the architectural inscriptions and the stamped bricks and tiles. The second (pp. 241–254) is merely an illustrated inventory of the inscribed pot-fragments and other dedications from the site of the Sanctuary of Athena Chalkioikos on the Acropolis: many of the latter have been published or referred to in previous Reports, but it seems worth while to group all the inscribed votive objects together as I have done here. I take this opportunity also of publishing on Plate XIX a revised version of that portion of the original General Plan, undertaken in 1906–7, which covers the principal sites excavated during 1924–28. The additions have been inserted from his own measurements by Mr. Piet De Jong, to whose co-operation throughout the five seasons' work carried out by the School at Sparta I cannot sufficiently express my indebtedness. A. M. Woodward.

I.—The Theatre: Architectural Remains.

In a previous volume of the *Annual* (xxvii. p. 204 f.) I attempted to reconstruct the history of the theatre at Sparta in the light of the remains revealed by the excavations of 1924–27, but refrained from offering any detailed account of the architectural material, except where the inscriptions engraved on architraves or cornices gave us chronological evidence for our purpose. In this article an attempt is made to deal with this material, and to shew how far it is possible to reconstruct the elevation and ornament of the stage-front at various periods of its history. The difficulty of the task lies rather in the diversity than in the lack of archi-

tectural elements, for the total number of architectural marbles found at the theatre-site extends to several hundred, of which a large proportion are mere fragments. It is clear that a considerable quantity of this material was brought to the site for building purposes, either for use in rubble-concrete for the later walls of the stage in Roman times, or as wall-stones, or to some extent for decorative purposes, during the long Byzantine occupation of the site. It is equally clear that much of the material has been removed elsewhere, or burnt for lime; and allowance must also be made for elements of earlier structures being cut down and re-used for later reconstructions. Even so, the lack of uniformity among the surviving items is conspicuous and, needless to say, adds considerably to the difficulty of the task of reconstruction.[1]

I propose to deal with this material according to the architectural Orders to which it can be assigned, beginning with the Doric Order.

§ 1. *Remains of the Doric Order.*

The earliest, and in fact the most interesting, fragment for our purpose is a portion of a column with eleven flutes on the front and rectangular cuttings at the sides and behind. This is to be associated with the remains described in my previous report (*B.S.A.* xxvii. p. 192, and Pl. XXVII) as ' Early Wall,' a short stretch, only 2·77 m. long, of poros blocks, one course high and ·43 m. wide, which run at an angle of eleven degrees to the general orientation of the stage-buildings. On the south side, *i.e.* away from the Orchestra, are two rectangular sinkings, ·04 m. deep and ·18 from back to front; one is complete and measures 1·07 m. long, the other is incomplete, owing to injury, but may be confidently restored as of the same length. In the space ·265 m. wide between the sinkings are two dowel-holes ·07 square, and remains of similar holes are preserved at each end of the surviving portion of the wall. It is clear that the wall originally continued in both directions, though we cannot say how far, for all further traces of it have perished, but enough is preserved to

[1] The drawings illustrating this article are based almost entirely on the measurements made on the site during the excavations by Mr. P. De Jong, Architect to the British School at Athens, with a few details added from the Excavation Register of Marbles (the work of many hands). Most of the finished drawings are also by Mr. De Jong, with a few additions of my own; but Figs. 1, 2, 3, 15, 16, 17 were drawn out for me by Mr. L. W. Thornton White, A.R.I.B.A., Henry Jarvis Student of the Royal Institute, whilst he was studying at the British School at Rome. I wish to record my deep indebtedness to both the above architects for their helpful and patient collaboration.

make plain that, as I suggested tentatively (*op. cit.* p. 192, note 2), the purpose of this wall can only have been to carry a light colonnade with half-columns in whose intercolumniations were removable πίνακες, in other words, a typical Hellenistic Proskenion.[1]

Although we have left from this Proskenion merely a portion of

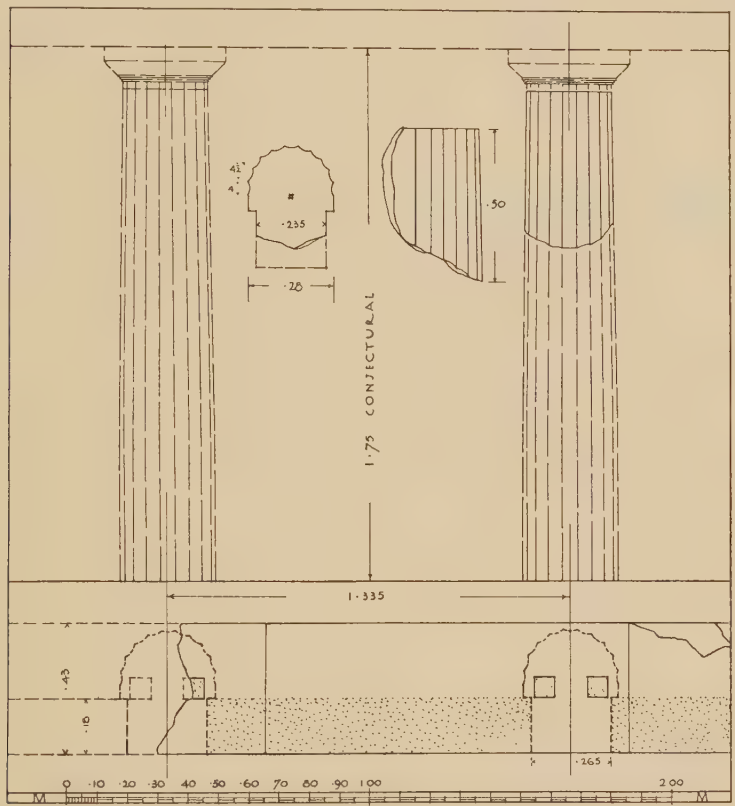


FIG. 1.—HELLENISTIC PROSKENION: DETAILS OF COLUMN AND STYLOBATE.

stylobate, with cuttings for two *pinakes* and clamp-holes for three columns, and a single piece of column-shaft, they are enough to warrant a provisional reconstruction of the elevation, which is given in Fig. 1. The column-fragment is ·50 m. high, with a dressed surface above, in which is

[1] Professor Ernest Fiechter, of Stuttgart, who has most kindly put at my disposal the notes and sketches which he made when he examined this wall, agrees that no other interpretation is possible for it. I am much indebted to him also for his advice and criticism on many other points connected with the study of the stage-buildings at all periods.

a small square dowel-hole, and has eleven flutes, of which the outer one at each end is ·04 m. across and the rest ·045, at the upper end of the shaft; the outer flutes are flanked by a plain strip ·05 m. across, and inset ·02 from this at each side is a tenon-like projection ·235 m. wide above and not less than ·13 deep (the end is broken off) which at the lower end of the shaft measured presumably ·265 m. across and exactly filled the space between the sinkings for the *pinakes*. It is pretty certain that this fragment formed the top of the shaft, and was directly surmounted by the necking of the capital; and the probable taper of the column, calculated from the maximum possible width for the tenon-portion below, indicates a height of 1·61 m., adding to which ·14 for capital and abacus, we obtain a height from stylobate to architrave of 1·75 m. This is admittedly low, in comparison with other Proskenia to be mentioned shortly, but it would be unwise to suggest that the height could have been greater, except by ten centimetres at the most. The dowel-holes for the bases of the columns also determine the intercolumniation, which is 1·335 m., and shew that the frieze must have had two triglyphs between those over each pair of columns. This arrangement is suitable to Hellenistic Proskenia,[1] but we have unfortunately no remains of the entablature to confirm it. The suggested reconstruction (Fig. 2) gives us a cornice ·10 m. high, a frieze ·265 m. and architrave ·235 m.; triglyphs ·18 m. wide, and metopes ·26 m. It is interesting to compare the details of this Proskenion as reconstructed with the two best-preserved and closest parallels among Hellenistic theatres, namely Priene and Oropos :—

	Sparta.	Priene.	Oropos.
Half-columns : ht. including capital and abacus . .	1·75 (est.)	2·057	1·996 (approx.)
Half-columns : diameter, upper	·285	·360	·25
Half-columns : diameter, lower	·315	·374	·27
Entablature : ht. over all .	·60 (est.)	·596	·514
Total ht. of façade . .	2·350 (est.)	2·653	2·510
Intercolumniation . .	1·335	1·449	1·355 (average)[2]
Width of *pinakes* . .	1·07	1·40 (?)	1·15 (,,)
,, of stylobate . .	·43	·615	·297
Ratio of ht. over all to intercolumniation . . .	1·7603	1·8309	1·8455

[1] At Oropos there are three triglyphs between those over each pair of columns.
[2] Omitting the end ones which are 1·22 and 1·215 m.

From these particulars we may see that if we wished to make the ratio of height to intercolumniation at Sparta more nearly equal to that of the other two Proskenia, we should have to increase the height to 2·45, the difference of ten centimetres being all added to the height of the shaft, as the entablature is scarcely likely to have been higher than ·60 m. as suggested in the restoration. This difference is more than the proportions of the surviving piece of the column warrant, although 1·75 m. is dis-

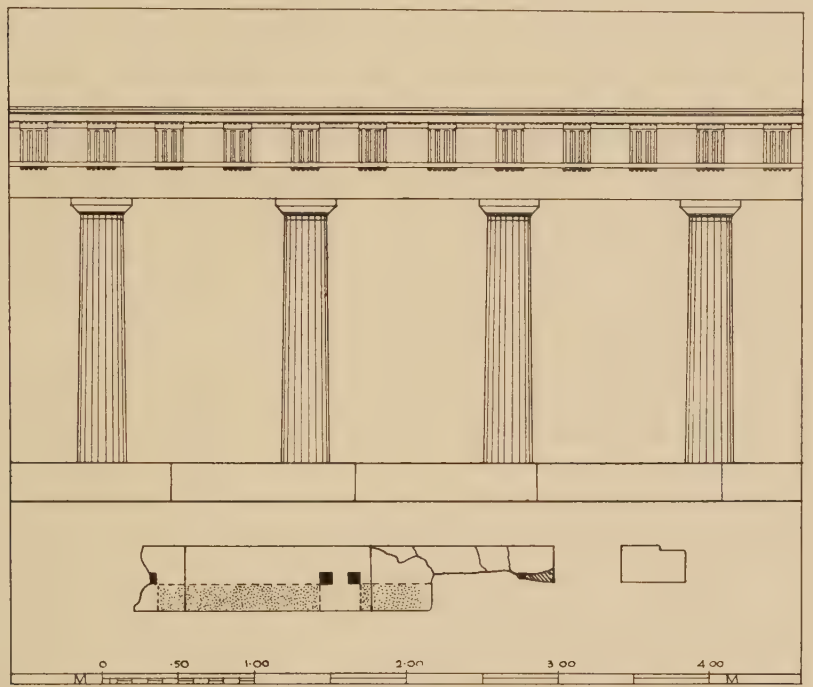


FIG. 2.—HELLENISTIC PROSKENION: CONJECTURAL ELEVATION. BELOW, PLAN AND SECTION OF STYLOBATE.

tinctly low for a façade with practicable doorways, as we must assume our Proskenion to have had. (See, however, the Postscript, p. 240.)

Unfortunately, we have no indication of the original length of the Proskenion-wall, and therefore we cannot tell how many openings it had. All that we can say is that we have the remains of two cuttings for adjacent *pinakes* of the same size, but whether one of these openings was in reality a doorway cannot be decided. If we assume that one of them was, in fact, for this purpose, we get no clue to the total number of openings; but if both were for *pinakes* it is more likely that the total number of openings

was more than nine (as at Oropos), since a wall with nine openings, of which three are doorways (placed presumably between columns No. 2 and 3, 4 and 5, and 6 and 7) can only have two adjacent openings of the other sort at the extreme ends. As, however, we have no reason to suppose that our wall-remains belong to the end rather than to any other part of its course, this line of argument takes us no further. On the whole, by comparison with the dimensions, other than height, of the Proskenion at Oropos the Spartan example would be quite as well proportioned to a structure with eleven openings as to one with nine. We obtain no help in this problem by considering the relation of the Proskenion to the Orchestra, for, owing to the difference of eleven degrees in its orientation from that of the later stage-buildings, the former can have had absolutely no relation to the central axis of the Orchestra in Roman times; and this in turn seems to rule out of account any suggestion that the foundations of seats in the existing *cavea* could have survived *in situ* from the *cavea* contemporary with the Hellenistic Proskenion. As we found no traces of either an Orchestra-level or of seat-foundations in positions different from those associated with the Roman-age Theatre, we cannot hope to recover the dimensions of the Orchestra, or the plan of the seating, in Hellenistic times; and consequently this line of approach to the problem of the size of the Proskenion likewise gives us no result. If we fall back on general probabilities, it may be submitted that the Orchestra at Sparta in Hellenistic times is not likely to have been so small as that at Oropos, which had a maximum diameter of 12·40 metres, for we know that certain festivals and contests were celebrated in the Orchestra at Sparta, and that their requirements must have partly dictated the large size of the Orchestra in Roman times (when its diameter was 24·50 metres),[1] but, within these limits, the diameter of the Hellenistic Orchestra, and, proportionate to it, the length of the stage, must remain a matter of guess-work.

As to the size and plan of the Skene itself we are left entirely in the dark, since later builders have removed all traces of it.

§ 2. *The Roman Stage: Period I.*

In discussing the walls which I assigned to the ' First Stage-Building '[2] I had to admit that we had no data for its reconstruction except the

[1] Exclusive of the gutter surrounding it; cf. *B.S.A.* xxvi. p. 139. For the festivals held at the Theatre, *ibid.* p. 119.

[2] *B.S.A.* xxvi. p. 148 f.; xxvii. pp. 189 ff.

ground-plan furnished by these walls, and that at the west end the evidence was unsatisfactory. Subsequent study, however, has made possible a partial reconstruction, of which the details are as follows. The wall, shewn as c–cc on the plan (*B.S.A.* xxvii. Pl. XXVII) consists, for the most part, of a single course of poros, varying in width between ·72 and ·77 m., with occasional blocks about ·80 m. wide, and enclosed a narrow rectangular space measuring internally 5·20 m. from N. to S. and at least 35 m. from E. to W. Practically all the south wall has survived,[1] the east wall is visible projecting just to the east of the E. wall of the later stage-building, but the west wall has not been found. It may well lie concealed beneath the west wall of the later stage-building, or the still later fortification wall which backs up against it. The possibility that it lay still further west, beyond the limits of our excavations, is suggested by the apparent continuation of the south wall beyond the line of the two later walls just mentioned; but, since we did not find the north wall to be continued similarly, nor any indications that it had been removed at the point examined, this apparent extension of the south wall, in spite of its similarity of style, may belong to some sort of annexe on the west. And consequently the true west wall is in all probability concealed beneath the later walls at the west of the stage. This is where we should expect it to run, having regard to its position in relation to the laying-out of the Orchestra; and we may thus conclude that the internal length of the building, from east to west, was about thirty-five metres.

On this foundation, which seems to have been built of two, or perhaps even three, courses of poros—for a second and third course appear to be preserved *in situ* at the east end of the north wall—was laid presumably a marble stylobate-course, on which stood a colonnade. I have already [2] shewn reasons for rejecting the supposition that the single channelled block found towards the west end of the north wall could have been *in situ*, as was thought possible when my first report was written [3]; and there now seems no reason to doubt that the sole purpose of our foundation was to bear a colonnade. It must be left undecided whether this ran round all four sides of the building, for our only structural evidence is a single angle-block from the cornice, but there need be no objection to assuming that it did so.

Of this colonnade a portion is shewn in the restored elevation given in

[1] *B.S.A.* xxvii. p. 191, Fig. 5. [2] *Ibid.* xxviii. p. 16. [3] *Ibid.* xxvi. pp. 148 ff.

Fig. 3, for which the details are furnished by the following fragments, all of blue-grey Laconian marble; they have a very similar surface-dressing and lack a fine polish :—

(*a*) Five fragments of Doric columns, with 20 flutes each ·10 m. across below and *ca.* ·089 m. above, giving a diameter of ·63 m. below and ·53 m. above.

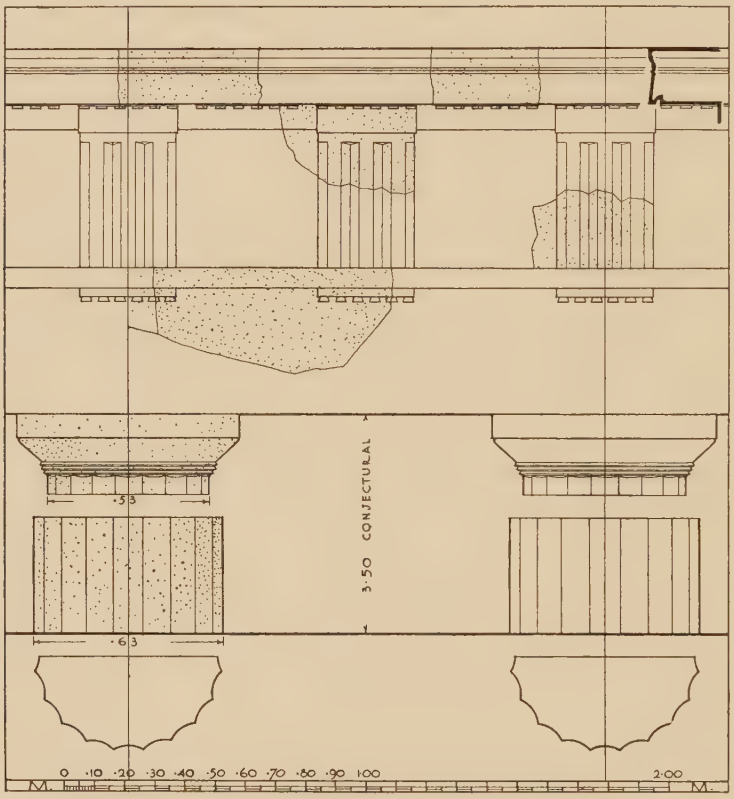


FIG. 3.—DORIC COLONNADE FROM FIRST ROMAN STAGE.
(Existing Portions shewn with dotted surface.)

(*b*) One fragment from capital and abacus, ·265 m. high over all; the abacus and echinus are each ·08 m. high; the three *annuli* measure ·0425 m. over all, and the height of the flutes on the necking is ·0625 m.

(*c*) One piece of architrave, with remains of five *guttae* on the right and of two on the left, broken below and at both ends. Ht. ·35 m.; length ·78; depth over all ·29 m.

(*d*) Two fragments of triglyphs, ·32 m. wide; one complete above, the other below, but not from the same triglyph.

(*e*) Seven fragments of cornice, ·19 m. high, one of which is from an angle. As the architrave-block gives us the distance separating the two sets of *guttae*, ·465 m., we have the necessary data for our intercolumniation (·465 m. × 2 + ·32 m. × 2 = 1·57 m.). Applying this to our suggested length for the colonnade, 35 metres internally, or 36·40–·45 m. over all, we find that it would fit admirably for a range of 24 columns if the two nearest each end were spaced a little more closely, thus:—21 intercolumniations at 1·57 m. = 32·97 m. + 2 at 1·40 m. + half diameter of two corner columns (or *antae*) = ·63 m. = 36·40 m. The short sides, measuring 6·60 m. over all, would take five columns if their spacing was slightly less than on the front, namely 1·49 m. (4 × 1·49 m. + ·63 m. = 6·59 m.). In addition to the evidence supplied by the similarity of style and of surface-dressing of the marble fragments, and by the suitability of the foundations for such a colonnade, it is significant that nearly all the elements used in the reconstruction came to light in the same region, for more than one of the column-fragments was built into the foundations of the *Scenae Frons* and most of the pieces of entablature were used as rubble in the west room of the stage-building behind it. This gives us good reason to believe that the colonnade was deliberately demolished to make room for the *Scenae Frons* when the first reconstruction in Imperial times took place.

As to the date of this colonnade, we must assume that it cannot be later than the laying-out of the Orchestra and *cavea* in the Augustan period, and there seems no reason why it should not be contemporary with it, as was suggested in a previous report.[1] It is, at first sight, strange that no remains of a stage came to light in front of it, but the following considerations make it plain that no stone-built stage belonged to this phase of the construction of the Theatre. In the first place, the width of the Parodoi, from the front of the stylobate to the Parodos-wall is only 2·80 metres, and if a permanent stage had existed at this date, it would have blocked the Parodoi completely. It was essential, however, for them to have been left open, at one end if not at both, for the purposes of the festivals other than dramatic which took place in the Orchestra. Secondly, the existence of a separate building called the Skenotheke is vouched for

[1] *B.S.A.* xxvii. p. 191.

on the evidence of the stamped bricks bearing its name and dated to the year of the Eponymos Kallikrates, who belongs to the late first century B.C. These brick-stamps are analysed and discussed below (pp. 226 ff.). Its purpose must have been the storage of material for a movable stage, no doubt of wood, which would have been erected only when required, in front of the colonnade. As to its height and other dimensions we are entirely ignorant, for there are no remains *in situ* that could be sockets or post-holes for a wooden structure at this period.[1] These two considerations sufficiently explain the absence of a permanent stage contemporary with the colonnade.

Before we turn to the architectural remains from the next period, we may with advantage deal briefly with the other marble fragments belonging to the Doric Order. Although there is no good ground for supposing that any other Doric structures were associated with the Theatre, a striking quantity of such fragments was found, which by style and scale alike cannot have belonged to either of the buildings already described. A selection of typical capitals and entablature-blocks is reproduced in Fig. 4, which will be dealt with first.

(1) Poros, plaster-faced; broken below. Abacus ·10 m. high, *ca.* ·78 across; echinus-profile convex above, and probably concave below, the *annulus*. Also fragments of a second example, much broken. Some column-fragments which probably belong to these capitals are described below (p. 162).

(2) One incomplete example; abacus ·09 m. high, *ca.* ·65 across; echinus *ca.* ·10 high, shallow *annuli*. For a column *ca.* ·40 m. in diameter above.

(3) Three fragments: abacus ·08 m. high, ·60 across, separated by a narrow beading (·0075 wide) from the echinus, which is ·06 high; four *annuli*. Diameter at necking *ca.* ·40 m.

(4) One fragment: abacus ·08 m. high, ·58 across; echinus ·13 high, with three *annuli* dividing upper (convex) from lower (concave) portion. Diameter at necking *ca.* ·42 m.

(5) Two fragments from the same capital: abacus ·0675 m. high, ·43 across; echinus steep and straight, ·035 high; three *annuli*; flutes ·057 wide. Diameter at necking ·36 m. Also a complete example, with unimportant differences in measurements.

(6) One large fragment: abacus ·06 m. high, ·40 across; echinus ·11 high, divided into two parts by a single *annulus* near the top; and bounded by two *annuli* below. Underneath surface worked for joint. Upper diameter of column ·25 m.

[1] Sockets for the support of a wooden stage belonging to a later period are alluded to in *B.S.A.* xxvii. p. 187, note 2.

(7) One example, incomplete: abacus ·0525 m. high, ·39 across; echinus straight, at angle of 48°, ·04 high; three *annuli*. Flutes ·05 across; upper diameter of column ·32 m.

(8) One example, nearly complete: ht. over all ·25 m.; abacus ·1025 high (in two members, of which the upper has a slightly overhanging profile and the lower is vertical, ht. ·0525 and ·05 respectively), and ·36 across, above; echinus ·0475 high; three *annuli*. Flutes ·045 across; upper diameter

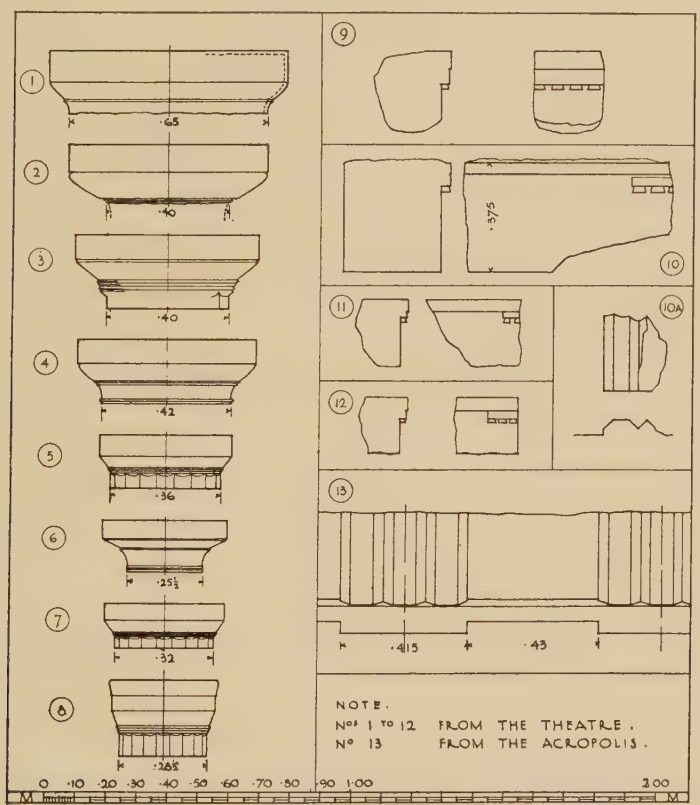


FIG. 4.—SELECTED DORIC CAPITALS AND ENTABLATURE-FRAGMENTS.

of column ·285 m. I know no close parallel for this curious profile of the abacus, but it is noteworthy that the Proskenion-capitals at Priene have a narrow projecting upper member to the abacus, which forms about a quarter of its total height.[1] This type would exactly fit the half-columns of our Proskenion.

In addition to those illustrated, the following fragments deserve brief mention:—

(*a*) Archaic capital, complete: abacus ·53 m. across; echinus, very flat,

[1] Wiegand-Schrader, *Priene*, p. 245, Fig. 242.

·04 high; diameter of column *ca.* ·30 m. (Perhaps from the Acropolis, having been found in the E. Parodos some 15 metres away from the stage.)

(*b*) Abacus ·085 m. high; echinus flattish, ·05 high, projects *ca.* 11 m.

(*c*) Fragment, of good period (5th cent.?). No dimensions available.

(*d*) Abacus ·06 m. high; echinus and three *annuli*, ·051 high over all.

(*e*) Abacus ·07 m. high; echinus and four *annuli*, ·067 over all. Inscribed Ἀλεξάν[δρου?] (see p. 220, 10, and Fig. 22, 4).

(*f*) Abacus ·095 m. high; echinus and four *annuli*, ·11 high over all.

(*g*) Abacus ·072 m. high; echinus (?); flutes ·04 wide.

(*h*) Abacus ·065 m. high; echinus fairly straight; three shallow *annuli*.

(*j*) Half a capital: abacus ·065 m. high; echinus slightly curved; upper diameter of column *ca.* ·36 m.

(*k*) Much damaged fragment: abacus ·05 m. high; echinus ·04; upper diameter of column *ca.* ·24 m.

(*l*) Almost complete: abacus ·04 m. high; slight curve on echinus, two *annuli*; twenty flutes, ·045 across: upper diameter of column ·265 m.

(*m*) Lacks one quarter only; abacus and echinus as on (*l*), but sixteen flutes only; upper diameter of column ·24 m.

(*n*) Half a capital: abacus ·05 m. high; echinus with two *annuli*; no flutes; diameter of column *ca.* ·20 m.

(*o*) Two small fragments: diameter of column ·25 m.

(*p*) Small fragment: diameter of column ·19 m.

Columns. Among the eight patterns of capital reproduced only two can be fitted to remains of columns, namely Nos. 1 and 7. With No. 1 we may connect three pieces of poros column with 20 flutes, stucco-coated, which have been cut down and laid horizontally in a late wall, apparently of Roman date, projecting eastwards from the S.-E. corner of the stage. Enough is preserved to shew that one piece had a diameter of *ca.* ·59 m., apparently close to the top of the shaft, which allows us to fit on to it the Roman Doric poros capital with stucco-facing above described. It seems difficult, if not impossible, to find a place for columns of this type in any reconstruction of the stage, and there are no remains of a corresponding entablature. To No. 7 we may ascribe five pieces of shafts with flutes averaging ·05 m. in width, but none comes from the top or bottom of the column. In addition to these there are the following pieces which seem to have no corresponding capitals:—

(*a*) Two fragments, the first 2·90 m. long from the base, and the second 1·26 m. long, from near the top, of a column with twenty flutes. Diameter, lower ·62, upper ·54 m. Poor workmanship, and shallow flutes. Found at

the edge of the Orchestra near the foot of staircase No. VII. (Cf. Plan, *B.S.A.* xxvi. Pl. XIV.)[1]

(*b*) Small fragment with flutes ·08 wide; diameter *ca.* ·51 m.

(*c*) Ditto, with two flutes ·07 m. wide; diameter ·445. These two may well belong together.

(*d*) Four fragments, one from the base, with flutes ·06–·055 m. wide, indicating a column *ca.* ·38–·34 in diameter.

(*e*) Two fragments of half-columns, with section resembling those used for the Hellenistic Proskenion, but certain differences in the dimensions make it unlikely that these could also belong to it. The flutes on the two pieces measure respectively ·05 and ·045 m., but the flat surface adjoining them is ·06 and ·07 wide respectively. These could only be connected with the early Proskenion if we chose to explain the difference as due to their being used for the doorway openings and not for *pinakes*; but this would be mere guess-work.

Doric Entablatures. We found fragments of seven different types of Doric architrave-blocks in addition to that used—according to our reconstruction—on the colonnade of the first period of the Roman stage. These are mostly small fragments, to be distinguished chiefly by the varying dimensions of the *guttae*, for we have only one block (No. 2) which preserves the whole height and depth of the architrave, and no piece gives the full length of a block. Five of these are reproduced (Fig. 4, 9–13), and the series is here described beginning with the largest.

(1. Fig. 4, 9) Ht. of upper fillet ·065 m.; of band above *guttae* ·045; *guttae* ·015 high, ·045 wide, ·02 m. apart, below.

(2. *Ibid.* 10) Ht. ·375 m.; br. ·32. Ht. of upper fillet ·05, of band above *guttae* ·04; *guttae* ·02 high, ·045 wide, ·015 apart, below.

(3) Fragment with upper fillet and band only, dimensions as for No. 2, but cutting is different.

(4) Fragment, complete above only: ht. of upper fillet ·04 m., of band ·025; *guttae* ·015 high, ·033 apart on centres.

(5) Similar fragment: ht. of fillet ·0475 m., of band ·025; *guttae* ·01 high, ·035 apart on centres.

(6. *Ibid.* 11) Similar fragment: ht. of fillet ·04 m., of band ·0225; *guttae* ·018 high, ·02 wide, ·01 apart, below.

(7. *Ibid.* 12) Complete above and on r.; ht. of fillet ·045 m., of band ·025; *guttae* ·012 high, ·025 wide; three, *plus* two intervals measure ·0925, below.

(8) Corner block, with remains of triglyph above. Ht. of upper fillet, with

[1] These may very likely have belonged to a structure situated in the centre of the lowest row of seats, similar to that found in the theatre at Miletus, as shewn in Noack, *Baukunst des Altertums*, Pl. 87; if so, this must have been a quite late addition to the plan of the *cavea*.

bevelled upper edge, ·04 m., of band ·015; *guttae* ·015 high, ·0175 wide, ·01 apart, below. Triglyph *ca.* ·15 m. wide.

The fragment of triglyph shewn *ibid.*, 10A, seems to belong to the same entablature as architrave No. 2. Its total width was *ca.* ·345 m., thus making it too wide to combine with the restoration of the Stage-colonnade, where the triglyph is ·32 wide.[1] For purposes of comparison a triglyph-block from the Acropolis is reproduced (*ibid.* 13). This was found in the foundations of the west wall of the large Byzantine church (H. Nikon?) and perhaps comes from some building on the Acropolis of which we have no other remains. Its width is ·415 m. for the triglyph and ·43 for the metope, and it may date from the late fifth, or fourth century B.C. In any case it is considerably larger than any of the Doric structures represented among the marble fragments from the Theatre; and is of white marble, clearly distinguishable from the grey Laconian sort.

It will be seen that these few architrave-fragments fall into two clearly marked groups, Nos. 1–3 requiring triglyphs *ca.* ·33–·35 m. wide, and the others being on a much smaller scale, with triglyphs *ca.* ·17–·21 wide. It is not impossible that one of the latter types may have belonged to the Hellenistic Proskenion, for the restoration of which a triglyph ·18 wide is suggested, but these small fragments could so easily have been brought from elsewhere that the selection of any one for this purpose would be quite arbitrary.

It remains to notice two patterns of cornice, with a scroll-motive in relief on the corona; (*a*) ht. ·15 m., without fascia; (*b*) ·014 high, with fascia ·097 m. high.

§ 3. *The Later Stage-Buildings: Ionic and Corinthian Details.*

Attention has been drawn in my previous reports (*B.S.A.* xxvi. pp. 147, 155; xxvii. pp. 186, 197) to the difficulties involved in the attempt to reconstruct the appearance of the stage-buildings at any period of their history after the erection of the *Scenae Frons*. Whilst the chief difficulty arises from the excess rather than from the lack of architectural elements found in the excavations, we have to admit also that, even when we have weeded out the pieces for which no place can be found,

[1] There are, moreover, distinct differences in the details of the *guttae* between architrave No. 2 and that used for the restoration, and the triglyphs are much further apart on the former. The scale is in any case too large for the ends of the stage-colonnade with its (probably) smaller intercolumniation than on the long sides.

as well as those which are too fragmentary to contribute anything of value to our study, the grouping of the remainder is far from simple, for two reasons: the first is, our inadequate evidence for the exact nature and extent of the many remodellings which the site underwent; and the second is the increasing tendency on the part of the builders, as time went on, to be content with miscellaneous, instead of uniform materials. The summary of the periods which I attempted to distinguish in the history of the Theatre between the reigns of Augustus and Honorius (*B.S.A.* xxvii. pp. 204 ff.) is full of doubts and obscurities, which subsequent study has done little to remove, but at least it appears to explain the remains found, and to avoid irreconcilable hypotheses. On the other hand, in considering the possible appearance of the stage-front at a late date, say the middle of the fourth century, we cannot tell how degraded the style of building may have become. Old materials may very well have been re-used without being re-shaped: odd shafts on miscellaneous bases, with capitals differing in size and pattern, and patchwork entablatures would probably confront us if we could see again the stage-buildings at that period. That this should be the case at Sparta need not surprise us, when we remember that in Rome itself the practice was common.[1]

These considerations justify a cautious attitude in dealing with our material, and I have accordingly preferred to classify under their various types the architectural marbles belonging to the Ionic and Corinthian Orders before considering which elements may be reasonably combined to furnish a feasible reconstruction at any period. The most logical arrangement seems to consist in beginning at ground-level, and proceeding upwards, taking each member in turn, from plinth and column-base to cornice.

(1) *Plinths and Column-Bases.*

The marble plinths for the support of the column-bases on the remodelled wall of the *Scenae Frons* were mentioned in my first and second reports (*B.S.A.* xxvi. p. 144; xxvii. p. 195) and their positions are shewn on the Plan accompanying the latter (*B.S.A.* xxvii. Pl. XXVII). It would

[1] A typical example is offered by Santa Costanza, built as a mausoleum perhaps for Constantine the Great, and certainly used for the interment of the ladies of his family. Rivoira, who dates it not later than 327 A.D. (*Roman Architecture*, E.T. pp. 238 ff.), points out that the capitals, mostly composite, but including a few Corinthian, are re-used materials of dates ranging from the reign of Titus to that of Maxentius, and the columns, with their bases, are of alien origin, and vary in height and circumference.

now appear that these should not be regarded as isolated plinths, but as the remains of a continuous plinth, in fact a stylobate, extending the whole length of the *Scenae Frons* except where interrupted by the door-openings. Close to the west end two such blocks are preserved side by side, on one of which the square pedestal for a column-base was found *in situ;* but to assume that a corresponding column-base could have stood on the adjoining block would imply an impossibly close intercolumniation. Moreover, further evidence of the continuity of these blocks is afforded by the third block preserved, counting from the west end, which has one side dressed for a joint. In view of this plinth being continuous, its existing portions do not, as I had at first thought likely, give us a clue to the positions of the pedestals of the columns which it carried. Of these pedestals, the only one found *in situ* measured ·22 m. in height, and *ca.* ·63 m. in width and depth. Two other complete examples were found, with similar profiles, and approximately the same dimensions, except that one was ·30 m. high (Fig. 5 (2)), the other ·249 m. (Fig. 5 (3)); these have since been replaced on the wall, the former close to the east end of the wall, and the latter close to the pedestal found *in situ.* Seven other rectangular pedestals, of which six are fragmentary, seem to have been on about the same scale, and, whatever their original positions may have been, we may believe that they were utilised on the *Scenae Frons* together with the three first-mentioned. The heights of these fragments are as follows: (*a*) ·30 m.; (*b*) ·28 m.; (*c*) ·27 m.; (*d*) ·27 m.; (*e*) ·265 m.; (*f*) ·25 m. The seventh (*g*) is more elaborately moulded, in a style which has little to commend it, and is surmounted by a moulded Ionic base (Fig. 5 (1)) ·195 m. high, with an upper diameter of ·55 m. Fragment (*d*) has a somewhat similar profile, and may also have combined pedestal and base in one. The more ornate varieties, whether or not they represent re-used material, may well have stood together with the plainer types, perhaps to flank the door-openings. The differences in height are not a serious obstacle to our grouping these pedestals together, for they could have been easily compensated for by using bases, or even columns, of slightly different heights, and, as the colonnade which they supported can hardly have been earlier than the third century of our era, such anomalies would not be surprising. The possible reconstruction of this colonnade will be discussed later,[1] but meanwhile we must note that the dimensions of the pedestals—*ca.* ·63 m.

[1] P. 203 f.

square—imply a moulded base of not more than ·63 m. in lower diameter, and presumably not more than ·55–·57 m. above, which in turn demands a column with a lower diameter, above the *apophyge*, of *ca.* ·45–·48 m. It is, at any rate, safe to assume that we must rule out of account for this Order any column-fragments whose lower diameter exceeds ·49 m., even if we cannot arrive at an exact measure for the type required. Certain other pedestals must be mentioned, which can hardly be fitted into the series just described. These are (1) a fragmentary pedestal with similar plain chamfered mouldings, but ·35 m. high, and a single example of a type

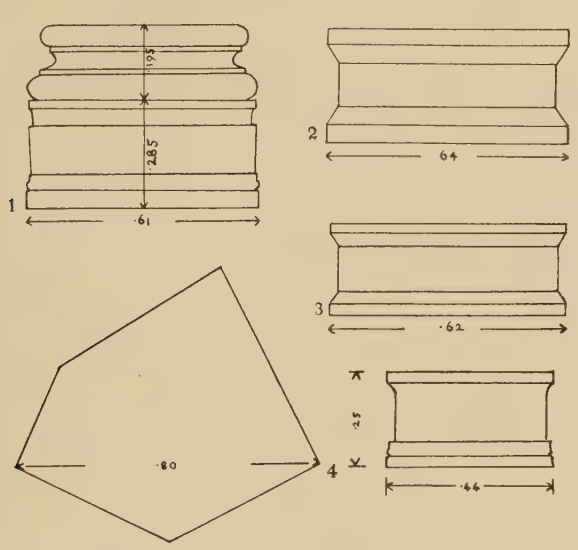


FIG. 5.—PEDESTALS FROM LATER STAGE-BUILDINGS.

measuring ·49 square and ·26 m. high, which seems to require a column of less than ·40 m. in lower diameter. A place could only be found for the latter—if it belongs to the *Scenae Frons*—in an upper Order, of which we shall find other indications furnished by details on a smaller scale. Mention must also be made of two pedestals, which do not form a pair, each in the form of an irregular pentagon in plan; I cannot suggest suitable positions of these curious blocks.[1] Fig. 5 (4) shews the plan, and the elevation of one face, of one of these pedestals.

[1] Their shape would make them suitable to angle-positions in a colonnade of which the returns were not at right-angles, but we have no foundations to suggest such an edifice at the Theatre. The five sides of the example illustrated measure ·44 m.; ·45 m.; ·28 m.; ·49 m.; ·57 m.; the other one is incomplete, but clearly was not a replica of it.

The number of column-bases of Ionic type which the excavations yielded was approximately fifty, of which ten stood on square plinths, one on an octagonal plinth, and one on a cylindrical one. The remainder exhibit many varieties of the normal pattern, namely with two *tori* and a *scotia*, separated by plain fillets; none had any form of decoration on either *torus*. The types standing on plinths may be grouped advantageously according to the height of this member, which in some instances is the only part to survive sufficiently undamaged to permit of measurement. The detailed list follows:

(*a*) Ht. of plinth ·14 m. (incomplete above).
(*b*) Ditto ·13 m. (ditto, and re-used).
(*c*, *d*. Fig. 6 (8)) Ht. of plinth ·095 m.; ht. of base above plinth ·20 m.; width of plinth ·78 m.; upper diameter ·68 m.
(*e*) Ht. of plinth ·095 m.; ht. of base above plinth *ca.* ·20 m.; plinth octagonal.
(*f*) Ht. of plinth ·095 m.; ht. of base above plinth *ca.* ·20 m. (fragment, perhaps of same type as (*c*), (*d*), and (*e*(?)).
(*g*) Ht. of plinth ·092 m.; ht. of base uncertain; upper diameter *ca.* ·54 m.
(*h*) Ditto ·09 m.; other dimensions uncertain.
(*j*) Ditto ·085 m.; ht. of base *ca.* ·17 m.; diameter uncertain.
(*k*) Ditto ·07 m.; other dimensions uncertain.
(*l*) Ditto *ca.* ·07 m.; ht. of base *ca.* ·17 m.; upper diameter ·42 m.
(*m*) Ditto *ca.* ·18 m., on cylindrical plinth; ht. of base *ca.* ·22 m.; diameter ·47 m.

It will be seen that (*c*), (*d*) and perhaps also (*e*) and (*f*) are of the same type, for the fact that (*e*) is a variant with an octagonal plinth need not necessarily lead us to reject it from this group; and further, that the columns which belong to this type of base must have had a lower diameter of *ca.* ·54–·56 m. The proportions and profile of the mouldings put this on a distinctly higher level than most of the bases found at the Theatre, and it is suggested below (p. 199) that it fits appropriately into the restoration of the Corinthian Order of which the architrave bears the inscription recording its dedication by Vespasian. I can find no place for any other of the bases with plinths, though one or other of the smaller ones might have belonged to the upper Order: *e.g.* No. 1, with an upper diameter of ·42 m. might have stood on the pedestal, ·49 m. square already mentioned, to take a column of *ca.* ·36–·38 m. in lower diameter.

The column-bases of normal pattern, with no plinth, are even more

bewildering in their variety of type and dimensions, for the thirty-six measurable examples seem to belong to at least thirty different bases, and it is incredible that all could have been used for the stage-buildings. In the circumstances it will suffice to describe in detail the selection repro-

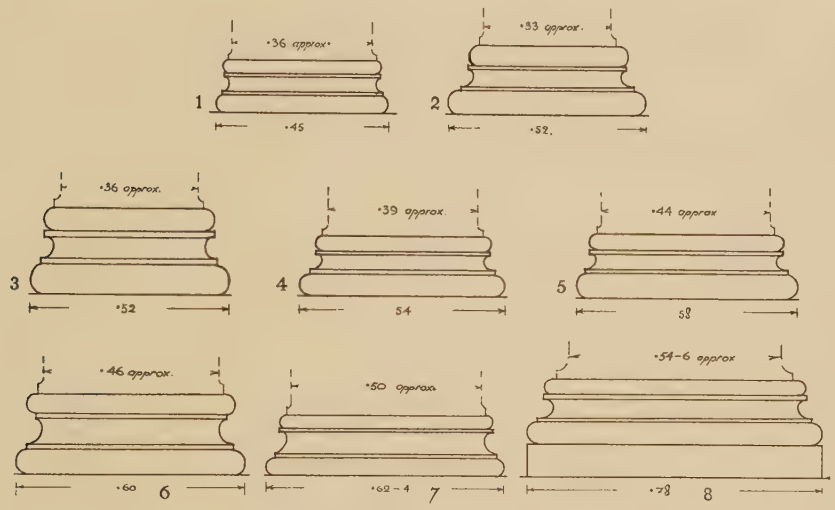


FIG. 6.—COLUMN-BASES OF VARIOUS DATES FROM STAGE-BUILDINGS.

duced in Mr. De Jong's drawing, and to dismiss the rest very summarily. The illustrated examples are of the following dimensions :—

		Ht.	Lower diameter.	Upper diameter.	Approx. lower diameter of column-shaft.
(Fig. 6)	1.	·14 m.	·45 m.	·415 m.	·36 m.
	2.	·18 m.	·52 m.	·42 m.	·33 m.
	3.	·225 m.	·52 m.	·445 m.	·36 m.
	4.	·16 m.	·54 m.	·46 m.	·39 m.
	5.	·17 m.	·58 m.	·52 m.	·44 m.
	6.	·21 m.	·60 m.	·545 m.	·46 m.
	7.	·14 m.	*ca.* ·63 m.	·56 m.	·50 m.
	8.	(on square plinth, described above).			

Of these, No. 5 is adopted for the suggested reconstruction of the Order standing on the *Scenae Frons* (Fig. 17 (2)), for which we have described the pedestals already. It would be quite impossible to suggest an exact date for any of these bases on stylistic grounds, but it is safe to say that they cover a long period, and that Nos. 1, 3 and 6, with their debased

profiles, in which the upper *torus* is nearly as heavy and as wide as the lower, must be dated nearer to the end than to the beginning of the history of the stage-buildings, and that No. 2, though rather more splayed, and less clumsy in type, is probably also of late date. On the other hand, No. 4, whilst somewhat similar in its profile and proportions to No. 8, which is here assigned to the reign of Vespasian, has also a good deal in common with the base from the exedra of Herodes at Olympia,[1] and might thus be intermediate in date between the two, perhaps Hadrianic, or early Antonine at the latest. I should be inclined to group No. 7 also among the earliest of our types, on the ground of the low proportion of its height to its diameter.

With regard to the bases, many of them fragmentary, which are not illustrated, it must suffice to state that they range from a fragment only ·07 m. high, which must have borne a column little more than ·25 m. in lower diameter, up to a base ·25 m. high, with an upper diameter of ·71 m., which implies a column of *ca.* ·64 m. in diameter below, a scale not represented for certain by any other item found at the site.[2] Within these limits there are nineteen examples whose height varies between ·12 and ·18 m., and eight more with a height of ·19–·23 m. Five are too much damaged to permit of accurate measurement, or calculation of the diameter, but the remaining twenty-two may be tabulated thus, in terms of the approximate lower diameter of their shafts :—·20 m. (1) ; ·26 m. (1) ; ·30 m. (1); ·31 m. (1) ; ·32 m. (2) ; ·33 m. (1) ; ·36 m. (1) ; ·37 m. (1) ; ·40 m. (2) ; ·42 m. (3) ; ·43 m. (1) ; ·46 m.(2) ; ·47 m. (1) ; ·50 m. (2) ; ·53 m. (2). It would be safe to assume that some of these, even if they did not exactly resemble either in profile or height the examples of corresponding diameter, illustrated and described above, might well have belonged to the same structure, particularly if its date was towards the end of the history of the Theatre. On the other hand, as we shall have occasion to observe in regard to the Ionic capitals, the variety is so large that many pieces must represent odds and ends brought in as building-materials in Byzantine times, or used, already broken up, in Roman rubble-concrete.

(2) *Columns.*

Here again the variety is baffling, and we must not hastily assume that every substantial portion of a column found, especially in the

[1] *Olympia, Tafelband* II. Pl. lxxxvi. (lower r. corner).

[2] Except one piece of an unusually large architrave, No. 10 below (p. 187).

Byzantine levels, must have belonged structurally to the Theatre. The task of grouping the fragments is made more difficult, as might be expected, by the uncertainty as to the exact position in the original shaft of a fragment which has no indication of belonging either to the top or to the base. On the other hand, where we have such an indication, we have the chance of checking it by its appropriateness either for a given base or capital; and where we can find such confirmation for both ends of the shaft, it justifies the conviction that all three members may be definitely assigned to the Theatre. The argument from stratification also plays a vital part, for, as we shall see, certain types of column were found in positions which made it certain that they had been deliberately buried at a deep level in the stage-region on the occasion of a far-reaching reconstruction; others again, namely the granite columns, came to light in three instances in what seems to be the position in which their original fall left them. Another point to be taken into account is the presence of inscriptions on some of the column-fragments. If such an inscription proves to be engraved near the top of a shaft, it is a fairly safe assumption that the shaft had been discarded from its original place, and therefore that the inscription is definitely later than the structural use of the column. If, on the other hand, the inscription is near the base, above all if it is at a recognisably convenient height for reading, it may perhaps have been cut while the column was still in its original position.

Four different patterns of columns can be immediately distinguished, namely, a type made of red granite, one of bluish Laconian marble (the type of which the most numerous varieties consisted), a fluted type, in white marble, and an ornate type, with spiral flutes interrupted at regular intervals by projecting acanthus-leaves. The last-mentioned is illustrated in Fig. 15, 1, and in Fig. 7 details of the best-preserved fragments of the first three groups are shewn, together with the tops and bottoms of the two complete shafts of granite. The details of Fig. 7 are as follows :—

(1) Red granite, complete : ht. 3·51 m.; lower diameter ·50 m.; upper diameter ·435 m.

(2) Red granite, complete : ht. 3·50 m.; lower diameter ·46 m.; upper diameter ·37 m. In addition, we found a large piece from the top of another example of No. 1 with an upper diameter of ·425 m., and a small fragment from the base of a second example of No. 2, as well as a piece from approximately the middle of the shaft, perhaps from the same column. This gives us at any rate four granite shafts, and it is noteworthy that in spite of the substantial

difference in diameter between Nos. (1) and (2) they seem to have been used simultaneously on the late piers in front of the *Scenae Frons*, for No. 1 and its fellow lay at a high level pointing N.-S. directly in front of the two bases of the western pier,[1] and No. 2 nearly opposite a base of the eastern pier. No fragment lay near the central pier, but this affords no proof that the columns standing on it were not of the same material. These shafts should be associated, if the construction was normal, with bases measuring respectively *ca.* ·56 and ·52 m. in upper diameter, and with capitals whose lower diameter was respectively *ca.* ·435 and ·38 m.

(3) White marble : 24 flutes, well-cut, and, in general, of good workmanship; ht. (conjectural) 4·28 m.; lower diameter *ca.* ·54; upper diameter ·4475 m.; flutes, above, ·045 wide, fillet ·01375 m. Above is a square dowel-hole, and a shallow lead-channel. More than a dozen pieces of shaft were found, of which five preserve the top complete; on a sixth a portion of the top survives, but no piece is from the base, and in fact none has a diameter of more than ·50 m. Allowing for the normal ratio of height to diameter, and the extent to which the taper can be measured, the original height should have been *ca.* 4·28 m., and the lower diameter *ca.* ·54 m. Most of the fragments—several of which are not less than 1·50 m. high—lay at a deep level in front of the *Scenae Frons*, and two at least seem to have been deliberately buried there. This is the type of column utilised for the reconstruction bearing the Vespasian-inscription on the architrave, whose other elements are discussed below (p. 199).

Distinct from this type, but represented by only three unimportant fragments, with flutes *ca.* ·054–·057 m. wide, is a column of grey marble, which must have been on a larger scale; and two or three smaller types, one of which had an upper diameter of ·38 m., and another still smaller, need no further discussion, as they are small fragments, very likely of extraneous origin.

(4) Grey marble, unfluted : a single fragment from the base; *apophyge* ·05 m. high; lower diameter ·385; upper diameter ·31 m. These dimensions are obtained by combining with the base-fragment (*a*) a piece ·70 m. long, broken at both ends, diameter ·34 below, and ·325 m. above, and (*b*) a piece complete above with upper diameter of ·31 m. This type, with a taper of more than ·02 m. in a metre, may have been *ca.* 3·50 m. high. We have no suitable Corinthian capital with a lower diameter of *ca.* ·30–·31 m., so possibly it was of Ionic type. A base—not illustrated—with an upper diameter of ·48 and lower diameter of ·60 would fit the shaft quite well. Two pieces, one from the base and one from the top of a column of similar dimensions, but of white marble, came to light in the Nymphaeum in 1927.[2] This perhaps represents re-used material from the Theatre, but we cannot be certain if these two types, of different coloured marble, can have belonged to the same Order; at least it seems possible that they did.

(5) Similar marble. Two fragments from the base, and one long piece

[1] They may be seen in the photograph reproduced in *B.S.A.* xxvi. p. 140, Fig. 9.

[2] *B.S.A.* xxviii. pp. 6 ff.

(2·40 m.) from the top. *Apophyge* ·04 high, sharply cut; lower diameter ·44; upper diameter ·40 m. Profile of necking above well rounded, and not unlike that of No. 3. The taper is slighter than on No. 4, and seems to have been only *ca.* ·01 in ·90 m., giving us a shaft *ca.* 3·60 m. high. We have no capital to fit this shaft convincingly.

(6) Similar marble. One fragment from base with *apophyge* ·04 m. high; lower diameter ·40 m. No other certain fragment from this column.

(7) Similar marble. The following seem to belong together: (*a*) fragment from base, with *apophyge* ·04 high; lower diameter ·485 m.; (*b*) similar, but *apophyge*, mostly chipped off, ·07 high; length 1·50 m.; (*c*) broken both ends, length ·90 m., diameter ·47–·46 m.; joins (*b*) above, since an inscription begin-

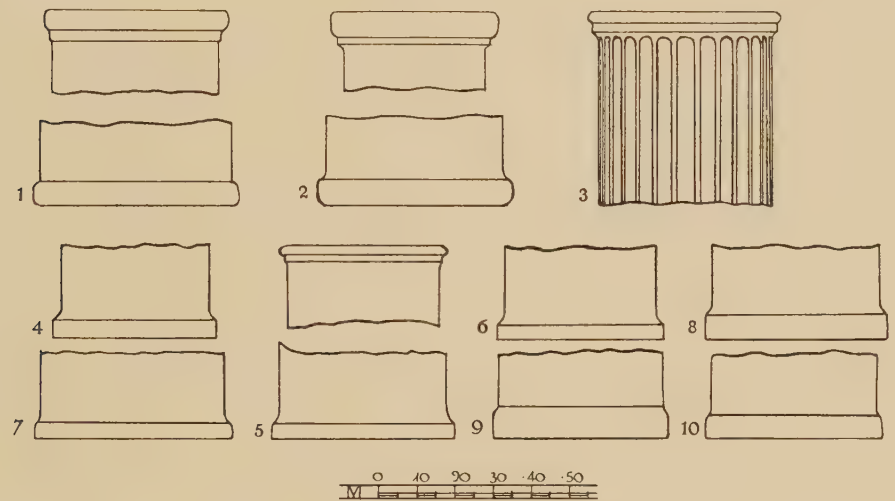


FIG. 7.—DETAILS OF COLUMN-SHAFTS FROM STAGE-BUILDINGS.

ning on (*c*) continues on to (*b*); (*d*) uninscribed; length 1·20 m., diameter ·45–·44 m.; (*e*) uninscribed, length *ca.* 1·00 m., diameter ·45–·44 m. Combining these pieces we obtain a shaft ·485 m. in diameter below, and *ca.* ·435 m. above, for which we may infer a height of about four metres. A possible capital for this shaft is described below (No. 6), which has a lower diameter of ·45 m. and seems to be of good style, at any rate not later than the middle of the second century, and perhaps still earlier.

The inscription mentioned, comprising two lists of Patronomoi (which I published in *B.S.A.* xxvi. pp. 225 ff., No. 20 (*b*, *c*); xxvii. p. 236 f. No. 20*), seems to belong to a year early in the reign of Hadrian. As the upper portion has *ca.* ·60 m. blank above the inscription, and joins the fragment (*b*) which is 1·50 m. high, the first line would come at about 1·80 m. from the ground. From the point of view of legibility this may well have been engraved while

the column was standing in its place in the stage-buildings; and it is not impossible that the Patronomoi commemorated (G. Julius Antipatros and his colleagues in the first list; G. Julius —— (?) in the second) were in office at the time of the erection of the column, and no doubt of the whole structure of which it formed part, presumably in the Hadrianic period. If so, we get a further clue to building activities at the Theatre in the reign of that Emperor.[1] In the fourth century, *ca.* 359 A.D., the lower portion was re-used for the inscription relating to repairs to the ' Stoa ' at the Theatre carried out by order of the Proconsul Ampelius (*B.S.A.* xxvi. *l.c.* No. 20 (*a*)). We need not assume that the column was still standing, after more than 200 years, in its original position; it is more likely that, in a broken form, it furnished a useful stele for the engraving of the document in question.

(8) Similar marble. Fragment from base, with *apophyge* ·09 high; lower diameter ·44 m. No certain fragment from the rest of the shaft.

(9) Similar marble. Fragment from lower end with *apophyge* ·09 high, with a slighter, and more poorly moulded, projection than No. 8; lower diameter ·435 m.

(10) Similar marble, of distinctly bluish tint. Large fragment from lower end with *apophyge* ·06 m. high; lower diameter ·435, diameter at upper end ·40 m.; probable upper diameter *ca.* ·375 m. This was found outside the west wall of the stage in 1906, and is engraved with a ' magic square ' alphabet, presumably when no longer *in situ*.[2] To this type (or to No. 8 or No. 9 (?)) may belong (*a*) a fragment from the top of a column-shaft 1·70 m. long, complete above, diameter ·41–·375 m., and (*b*) a similar fragment, 1·50 m. long, inscribed with the *cursus honorum* of Νέων (Νέωνος), whose *floruit* seems to have been *ca.* 150–160 A.D.[3] As this inscription is cut near the top of the shaft, it is unlikely to have been engraved whilst it was *in situ*; and we might therefore reasonably conclude that this type of column was already superseded by that date.

A few other types of plain column call for mention, even if we cannot find it possible to say more about them than that they cannot belong to any of the types enumerated. No. 11 is 2·60 m. high; lower diameter ·535, upper diameter ·485 m.; as neither end is preserved we cannot fix its position in the original shaft. It would, at any rate, have been large enough to couple with the Vespasian-architrave, if the fluted columns were for any reason thought unsuitable for it. No. 12 is smaller than any of those already

[1] This would not be surprising, for Hadrian *in omnibus paene urbibus et aliquid aedificavit*, Spartian, *V. Hadriani*, 19, 2. At the same time, we must not regard the Hadrianic date as established beyond all doubt, for there might possibly have been a second, later, Eponymos of the name of G. Julius Antipatros, grandson of the Hadrianic Eponymos.

[2] *I.G.* V. 1, 365.

[3] *B.S.A.* xxvii. p. 239 f., No. 31.

described: ht. ·70 m.; complete above, but necking damaged; upper diameter ·27 m. No. 13 is smaller still: mottled red marble, complete above; upper diameter ·24 m. If either of the last two belonged to the Theatre at all—which is quite uncertain—they presumably carried Ionic capitals, since we found none of Corinthian type small enough for them. A few other, and even less important, column-fragments, broken at both ends, need not be discussed in detail, as they yield no information of value for our purpose.

Distinct from any of the above is a type (No. 14) with spiral flutings, interrupted by three bands of acanthus-leaves (Fig. 13, 1); of this we have one complete example, broken into four fragments, and smaller pieces of a second. Ht. 3·08 m.; *apophyge* ·07 high; lower diameter ·40, upper diameter ·38 m. As some of the pieces of this type were found buried together with pieces of type 3 (fluted) and type 9, they must at any rate ante-date the final building-period, when the stage was filled up with earth to the level of the top of the *Hyposcenium*.[1] It is impossible to suggest an exact date for these acanthus-columns: the quality of the cutting seems to preclude our putting them early in the Imperial age, though somewhat similar columns, more floridly treated, appear in stage-decorations on Pompeian frescoes (*e.g.* Bieber, *Denkmäler zum Theaterwesens*, p. 77, Fig. 81; p. 80, Fig. 83). Thus the type must go back to the first century of our era. Actually, however, no exact parallel seems to be known.[2] With these shafts we may reasonably associate a capital of the 'Tower of the Winds' type, with reed-like leaves above and out-turned acanthus below (No. 13 in the list of capitals, below), as shewn on Fig. 13, 1. In view of the relatively small height (3·08 m.) they perhaps occupied a position somewhere on an upper Order, rather than in conjunction with the taller columns of the lower Order, as this would imply a tall *podium*, of which we found no traces.

It is reasonably certain that, as was suggested for the column-bases,

[1] Cf. *B.S.A.* xxvi. p. 146, Fig. 11; and xxvii. p. 205 (9) for the filling-up of the stage in its final period.

[2] There is nothing exactly similar to be found in Chapot, *La Colonne Torse*, the nearest parallel being an example drawn by Piranesi, *Trofei di Augusto*, Pl. XI. 5, with a single row of acanthus-leaves at the top of a spiral-fluted shaft, just below the necking. This may be merely a candelabrum, since it is among candelabra that the nearest analogies to our column may be found, though their acanthus-leaves seldom turn outwards at the top. Cf. an example from Lanuvium, *Papers, B.S.R.*, xi. p. 83, and Fig. 18; and others cited in that connection.

these numerous patterns of column cannot represent so many different structures, and that we may reduce the number by grouping together types with slight differences in diameter and varied forms of *apophyge*. We have seen already that the two complete granite shafts (Nos. 1 and 2) must belong together, and it is quite possible that Nos. 4 and 6, and again Nos. 5 and 8 and Nos. 9 and 10, should be coupled together. Nor would it be strange if the last four had all been employed simultaneously at a late period, if not originally. Even so, we have an irreducible minimum of nine distinct types, of which three only (Nos. 4, 6 and 14) seem fitted, by their smaller diameter, for use in the upper Order of the *Scenae Frons*. Nos. 12 and 13 can hardly have belonged, unless there was at any time a third Order. The alternative, that they occupied some subsidiary position, to flank doorways or adorn a niche, is also possible, but is supported by no structural evidence. Nor can I suggest a suitable use for the exceptionally large type No. 11.

(3) *Capitals:* i. *Ionic.*

The bases and columns so far described are of patterns which seem to be equally suitable, in the Imperial period, either to the Ionic or the Corinthian Order, and had we no capitals, it would be hard to decide which Order was employed for the *Scenae Frons;* or, assuming both were used, which was the upper and which the lower. The evidence from the capitals, however, makes it reasonably certain that both are to be recognised, and that the Ionic was the upper of the two [1]; and further, if there was ever a third Order, it was probably also Ionic. As, however, the evidence supplied by the Ionic capitals is very indecisive, I prefer to dismiss them briefly, before dealing with the richer, and more remunerative material afforded by the Corinthian capitals.

Fifty-five Ionic capitals, mostly consisting of small fragments, came to light at the Theatre during the excavations, and seem to belong to at least forty different types—perhaps even this is too low an estimate. In the circumstances it would be a waste of time to describe them all, or to attempt to select from among them probable types for the *Scenae Frons*, for it stands to reason that the presence of the vast majority is merely accidental, and that they represent an indiscriminate selection, many of

[1] But we must suppose that they were either replaced or supplemented, at a not very late date, by the ' acanthus and reed ' type on the spiral columns (type No. 14).

which only reached the site in Byzantine times. We must be content to tabulate here the dimensions of a few of the better-preserved pieces, in order to give some idea of the variety of patterns represented; it does not seem worth while to illustrate any of them.

	Diameter of soffit	Abacus	Volutes
(1)	*ca.* ·52 m	(?)	*ca.* ·25 × ·25 m.
(2)	,, ·40 m.	*ca.* ·52 m.	,, ·21 × ·185 m.
(3)	,, ·36 m.	,, ·44 m.	,, ·205 × ·18 m.
(4)	,, ·35 m.	,, ·44 m. (?)	,, ·215 × ·18 m.
(5)	,, ·32 m.	,, ·43 m.	·185 × ·162 m.
(6)	,, ·28 m.	·31 m.	·14 × ·125 m.
(7)	,, ·27 m.	·295 m.	·113 × ·11 m.
(8)	,, ·26 m.	·295 m.	(ditto, but no ribs on the volute)
(9)	,, ·21 m.	*ca.* ·26 m.	·13 × ·12 m.

Besides these there are fragments of at least a dozen more capitals, which fall within the limits represented by Nos. 2–9 in view of the dimensions of their volutes, which range between ·20 × ·20 m. and ·10 × ·10 m.; of several of these the volutes alone permit of measurement. Comparing these capitals with the column-shafts already described we see that only those with a diameter of ·27 m. or more could possibly have belonged even to the smallest of the columns. Allowing at least ·03 m. for the projection of the necking, we might, for instance, assign column No. 4 to capital No. 3 or 4, with the more confidence since, as I pointed out above, there is no Corinthian capital small enough to fit this shaft; and another possible combination would be column No. 12 (upper diameter ·27 m.) with capital No. 5 (allowing ·05 m. for the increase in diameter due to the necking). On the other hand, capital No. 1, with a lower diameter of ·52 m., is suitable for a shaft with an upper diameter of *ca.* ·46–·48 m., which is larger than any that we found, except No. 11. As, however, this was a single fragment, incomplete at both ends, it would be rash to draw any conclusions from it. We can, in fact, get no more from a study of the Ionic capitals than the unsatisfactory assurance that any fragment with a lower diameter of less than ·27 m. is to be rejected from the structure of the Theatre, and that of those exceeding this size some belonged to it in all probability; but we cannot say positively which, or decide whether the upper Order to

which we must assign them was a permanent element in the decoration of the stage-front. There can, however, be no doubt that the lower Order was at no period Ionic, which is a striking exception to the usual arrangement of the typical *Scenae Frons* under the Roman Empire.[1]

Capitals: ii. *Corinthian.*[2]

We were fortunate in finding about twenty capitals of the Corinthian type, or of some variant of it, sufficiently well-preserved to be measured and classified; and a few fragments belong undoubtedly to duplicates of

FIG. 8.—CORINTHIAN CAPITALS FROM *SCENAE FRONS*.
No. 1. First Century. No. 3, Antonine Age.

these. On the other hand, more than seventy other fragments of small size could not be recognised as belonging to the well-preserved types, and any further study or discussion of them would not yield results commensurate to the effort involved; so no further reference is made to them. The capitals of more or less normal types will be described first, and then

[1] *E.g.* at Ephesus, Ionic below, then two Corinthian orders; at Aspendus, Ionic below and Corinthian above.

[2] The description of the Corinthian capitals owes much to the assistance of Professor Edmund Weigand, of the University of Würzburg, who has kindly allowed me to add notes which he has supplied on parallels and dating. These are distinguished by quotation-marks and printed in round brackets.

the variants; a chronological arrangement is not practicable, but it is plain that No. 1 and 2 are definitely of earlier types than any of the others.

1. (Fig. 8, left.) Laconian marble.[1] Ht. ·54 m.; width of abacus over all *ca.* ·72 m.; lower diameter ·48 m. Angle-volutes missing. Acanthus-leaves well-cut, with sharp edges; the *caulis* from which the volutes spring is ribbed, not fluted, and is not masked by the leaves of the upper row; the ornament on the abacus is a partly opened bud, on a spiral stalk. One example only.

FIG. 9.—CORINTHIAN CAPITALS FROM *SCENAE FRONS*.

No. 6, SECOND CENTURY (?). No. 2, FIRST CENTURY (?)

('Represents the late Hellenistic type of the normal Corinthian capital, which may date, in Greece, to the Augustan era.')

2. (Fig. 9, right.) Ht. *ca.* ·46 m.; width of abacus ·53 m.; lower diameter *ca.* ·35 m.; incomplete below, the lower row of leaves being lost. Acanthus-leaves almost as on No. 1, but less boldly cut; volutes on face in high relief, angle-volutes, which spring from a fluted *caulis*, are wide-splayed and pierced

[1] Except where the contrary is stated, all these capitals are of Laconian marble.

through. The leaves springing from the *caulis* are carved very sketchily, but with sharp edges, and spread high up on to the angle-volutes. One example, and a fragment of a second. (' Contemporary with No. 1—in general style as well as in details essentially Hellenistic.') [1]

3. (Fig. 8, right.) White marble. Ht. ·59 m.; abacus *ca.* ·76 m.; lower diameter ·48 m. Acanthus-leaves coarser and more rounded at the edges than on No. 1, and more out-turned above; the leaves of the lower row nearly conceal the bases of those in the upper row. The *caulis* is nearly hidden by the upper leaves; a large leaf springs from it, and reaches the lower edges of both sets of volutes. One example nearly complete, and two fragments of another. (' Eastern type of normal Corinthian capital of the Imperial period, *ca.* 150–200 A.D.') [2]

4. White marble. Ht. ·55 m.; abacus *ca.* ·76 m.; lower diameter ·45 m. Acanthus-leaves and other details nearly as on No. 3, but ornament on abacus, in each case an open flower, has a straight stalk on No. 3, whilst on No. 4 the stalk is wavy up to half its height. In spite of smaller dimensions, seems intended to match No. 3.

5. Ht. ·54 m.; abacus lost; lower diameter *ca.* ·45 m. Much damaged, and details obscured, but apparently similar to Nos. 3 and 4.

6. (Fig. 9, left.) Ht. 55 m.; lower diameter ·45 m. Leaves fairly well cut, but shallower than on No. 3; one example; perhaps earlier than Nos. 3–5.

7. Ht. *ca.* ·46 m.; abacus ·54 m.; lower diameter ·33 m. Acanthus-leaves well-cut. Mason's mark, A, incised on top of abacus. One example, nearly complete.

iii. *Variant Types.*

8. (Fig. 10, left.) Ht. ·53 m.; abacus ·68 m.; lower diameter ·40 m. Acanthus-leaves boldly cut, with rather rounded edges. There are no volutes on the faces, and their place is taken by leaves springing from the *caulis*, of which pairs of fronds curl inwards towards each other in the position which the volutes should have occupied. Ornament on abacus is a large open flower on a wavy stem. On the face of the abacus is incised a letter, apparently E.

Two examples, and a fragment from a third. (' A typical west-Roman, not eastern, type of the normal Corinthian capital; the only other example known to me in Greece is a single specimen in Hadrian's Library in Athens; date 3rd century.')

9. Composite capital. Ht. ·57 m.; abacus ·76 m.; lower diameter *ca.* ·45 m. Acanthus-leaves rather shallow, with rounded tops; above the second tier is a

[1] The quality of the workmanship is so definitely inferior to that of No. 1 that it might be permissible to regard this as a later attempt to copy a capital of ' Hellenistic-Augustan ' type.

[2] (' We may compare the capital from the Exedra at Olympia, *Olympia, Tafelband* II. Pl. xc. 2 '). For the evolution of the ' Eastern ' type of capital in the first century of the Empire, see E. Weigand, *Jahrb.* xxix. (1914), pp. 58 ff.

row of rosettes, then successively a plain fillet, a bead and reel, and a typical Ionic egg-and-dart, with honey-suckle springing from the volute, which has a knob in the centre.

Two examples, each lacking most of abacus, and five fragments from a third. (' This is particularly interesting, as it combines the rosette-row typical of the western group of composite capitals with other features typical of the eastern group, and the *caulis* with " Hüllblatt " is quite unusual. As a whole it is consequently a " mixed type." ')

10–16. ' Tower of the Winds Type.' All these have eight acanthus-leaves of rounded type, with the ends turned bluntly outwards, and above them sixteen reed-like leaves, alternately shewn from front and back, in shallow relief, and a heavy plain abacus.

FIG. 10.—CAPITALS FROM *SCENAE FRONS* (?)
No. 8, ' WEST-ROMAN ' TYPE. No. 10, ' ACANTHUS AND REED ' TYPE.

10. (Fig. 10, right.) Ht. ·345 m.; abacus *ca.* ·49 m.; lower diameter ·39 m.

11. Ht. 37 m.; abacus *ca.* ·56 m.; lower diameter ·39 m.

12. Ht. ·395 m.; abacus ·49 m.; lower diameter ·335 m.

13. Ht. ·395 m.; abacus ·49 × ·47 m.; lower diameter ·38 m.

14. (*a*, *b*) Ht. ·41 m.; abacus ·51 m.; lower diameter ·39 m. Two examples.

15. (*a–f*) Six fragments, one with lower diameter of *ca.* ·34 m., perhaps as No. 12. Exceptional varieties of this class are :—

16. Ht. ·72 m.; abacus *ca.* ·62 m.; lower diameter ·38 m. Two rows of acanthus-leaves below the reeds. This abnormally tall and ugly capital can hardly have been used in conjunction with Nos. 10–14, and may perhaps be of later date than even the final period of the Theatre.[1]

[1] (' May quite well be Byzantine.') We may compare a similar capital, ·63 m. high over all, standing (in 1929) in front of the Sparta Museum (added since the *Catalogue* was published); and several, differing in minor details, at Mistra (Millet, *Monuments Byzantins de Mistra*, Pls. 46 and 55).

17. From the Nymphaeum. Ht. ·44 m.; abacus ·54 m.; lower diameter ·28 m. Finer style than any other of this type, the acanthus-leaves being sharp-edged, and well under-cut. One example; a fragment (lower diameter ·29 m.) may have belonged to a second specimen.

18. Pilaster-capital. Ht. ·37 m.; abacus ·60 m.; lower diameter ·44 m. The leaves are in the style of Nos. 10–14, but the abacus has a less debased profile than any of them. The height warrants us in combining it with this class of capital. No recognisable piece of a pilaster to carry it was found. The suggestion that one of this type of capital should be placed on the spirally-fluted shafts has been considered above (p. 175).

(' This type of capital is characteristically Greek : with the normal sharp-edged acanthus it is frequent (" Tower of the Winds, Theatre of Dionysos, etc."), but with the rounded (" Löffel-akanthus ") kind it is rarer; a specimen, of uncertain origin, but now on the Acropolis at Athens, is known to me, and one,

FIG. 11.—CAPITAL FROM THE ACROPOLIS, SPARTA.

with four tall angle-leaves of similar type from Andros, I know only by a photograph.') [1]

19. I add here (Fig. 11) a type not represented at the Theatre, but interesting for purposes of comparison. It was found outside the west end of the Byzantine Church on the Acropolis (H. Nikon ?), and had no doubt been brought from elsewhere for use in the porch when the Church was built. Ht. ·49 m.; abacus ·62 m.; lower diameter ·36 m. The distinguishing feature of this class of capital is the band of egg-and-dart ornament round the foot of the calathus, with large acanthus-leaves under each volute at the angles and a subsidiary plant-motive beneath the front volutes. Varieties without the frontal volutes are not uncommon.

[1] Professor Weigand kindly allows me to add (' In regard to the distinctive group of " Löffel-akanthus capitals " discussed by Ronczewski, *Arch. Anzeiger*, 1928, pp. 46–58, Figs. 5–12, I differ from the author's judgment and dating. I regard a late date as possible, since the type persists almost unchanged down to early Christian times, but do not venture on a definite opinion, since there are no really trustworthy data for comparison.')

('In relation to the dated examples—Hadrian's Arch in Athens, Greater Propylaea at Eleusis, Exedra at Olympia—seems somewhat later, say 200 A.D. The presence, or absence, of frontal volutes is of no chronological significance.')[1]

(4) *Architraves and Friezes.*

More than forty blocks belonging to architraves came to light during the excavations, and, after discarding a few quite small fragments which it has proved impossible to classify, and two inscribed pieces (Nos. 13, 14, below) which must be of extraneous origin, we are left with thirty-five pieces representing no less than twelve different patterns, which exhibit a wide range of dimensions. The largest is ·76 m. high, with a soffit ·60 m. deep, and the smallest is ·45 m. high, with a soffit ·32 m. deep; but eight of the others fall within the limits of ·51–·58 m. in height, and display also certain points of similarity in other features. All our types consist of frieze and architrave in one block, and, with the single exception of type No. 9, none bears any form of carved ornament except the mouldings at the top and bottom of the frieze and the plain fasciae—usually three in number, but occasionally two only—on the front of the architrave proper. The single exception has a band of egg-and-dart pattern with a bead-and-reel below it, along the upper moulding of the frieze. Before we attempt any discussion of possible reconstructions, it is desirable to enumerate the different types, and call attention to their distinguishing features, including inscriptions, peculiarities of cutting, etc., which may prove helpful for purposes of dating or restoration. Fig. 12 shews the twelve types in elevation and section, and a few of the more important among them in plan also. The numbers in the following list correspond to those of the illustrations.

(Fig. 12.) 1. One block only, broken through and incomplete at both ends, but little is lost on the left. (Found outside the later wall bounding the stage-buildings on the west, in 1906, but originally discovered by Fourmont,[2] who

[1] This type is dealt with in Professor Weigand's article, *Jahrb.* 1914, p. 89 f.; he illustrates examples from Rome (S. Nicola in Carcere) and Pergamon (Gymnasium), *op. cit.*, Figs. 41, 42, and cites numerous Greek examples on p. 90 (notes 1–3), pointing out that the majority belong to the period late-Trajan to Pius. For the (3) Olympia types, *Olympia, Tafelband* II. Pls. lxxxvi. and xc. 1, 3; two of these have palmettes on the front, of which one is upright, the other inverted, and the third has an acanthus of slender form. None of them has the frontal volutes of our specimen.

[2] *C.I.G.* 1305. Fourmont gave the finding-place as '*Spartae, prope ecclesiam D. Nicolai.*'

copied the inscription in a more complete state than at present.) Length 2·33 m.; ht. ·61 m.; depth ·46 m. An oblique cutting at the back shews that the adjacent block on the left made an inward return. The lower moulding of the frieze has been cut away so as to form a flat surface comprising the height of the frieze plus the top fascia of the architrave (*ca.* ·35 m. in all) in order to take the inscription, which is in four lines (*I.G.* V. 1, 691). As the text can be exactly restored, as occupying a width of *ca.* 2·60 m., we obtain a clue to the original length of this block (*ca.* 2·80 m.), and may conclude also that as the inscribed portion of the architrave must have been central, it must have belonged either to a narrow monument, such as an archway, or to the projecting portion of an entablature with a broken front. These alternative possibilities are discussed below (p. 201 f.).

2. Ten blocks, of close-grained white marble: characteristics of this type are: (*a*) the inner face has no moulding below the frieze, and the whole height on this side is divided into two fasciae below a plain fillet and chamfer at the top; and (*b*) the use of swallow-tail clamps, which appear on none of the other types of architrave. More blocks of this than of any other form came to light, and the majority of them had been used, apparently, as filling beneath the surface of the latest stage, especially towards the west end.

Ht. ·56 m.; depth ·46 m.; length of the various blocks as follows:—

(*a*) 2·30 m.; inward return on r. straight joint on l.

(*b*) ·61 m.; depth ·79 m., with set-back ·21 m. deep near right-hand end.[1] (Perhaps stood on a pilaster or engaged column beside an opening.)

(*c*) 2·10 m.; inward return on l., straight joint on r.

(*d*) 1·60 m., broken at both ends.

(*e*) 1·45 m., ditto.

(*f*) 1·40 m., ditto.

(*g*) 1·30 m., outward return on r., break on l.

(*h*) 1·05 m., inward return on l., break on r.

(*j*) 1·05 m., broken at both ends.

(*k*) ·90 m., with outward return on r.

The total length of these pieces amounts to 13·76 metres, and the number of angle-blocks shews that it must have belonged to a broken-fronted façade. As, however, the length of the *Scenae Frons* is approximately 34 metres in a straight line, to which we should add about twelve metres for the projections on to the three pairs of columns standing on the piers in front of the wall, it is clear that we have less than one third of the original run of this architrave. It is the type used for the restoration suggested in Fig. 17, *b*.

3. Laconian marble, usually grey to bluish in the fractures, but weathering to a greyish buff on the surface.[2] Characteristics are (*a*) the inscription, for which see p. 210 below, (*b*) the beading along the soffit, and (*c*) the two fasciae on the inner face of the architrave, where preserved. Nos. 4 and 5 are also

[1] For a cornice-block with a similar set-back see below, type 2 (*o*).

[2] This is the material of which all the types of architrave except No. 2 are made.

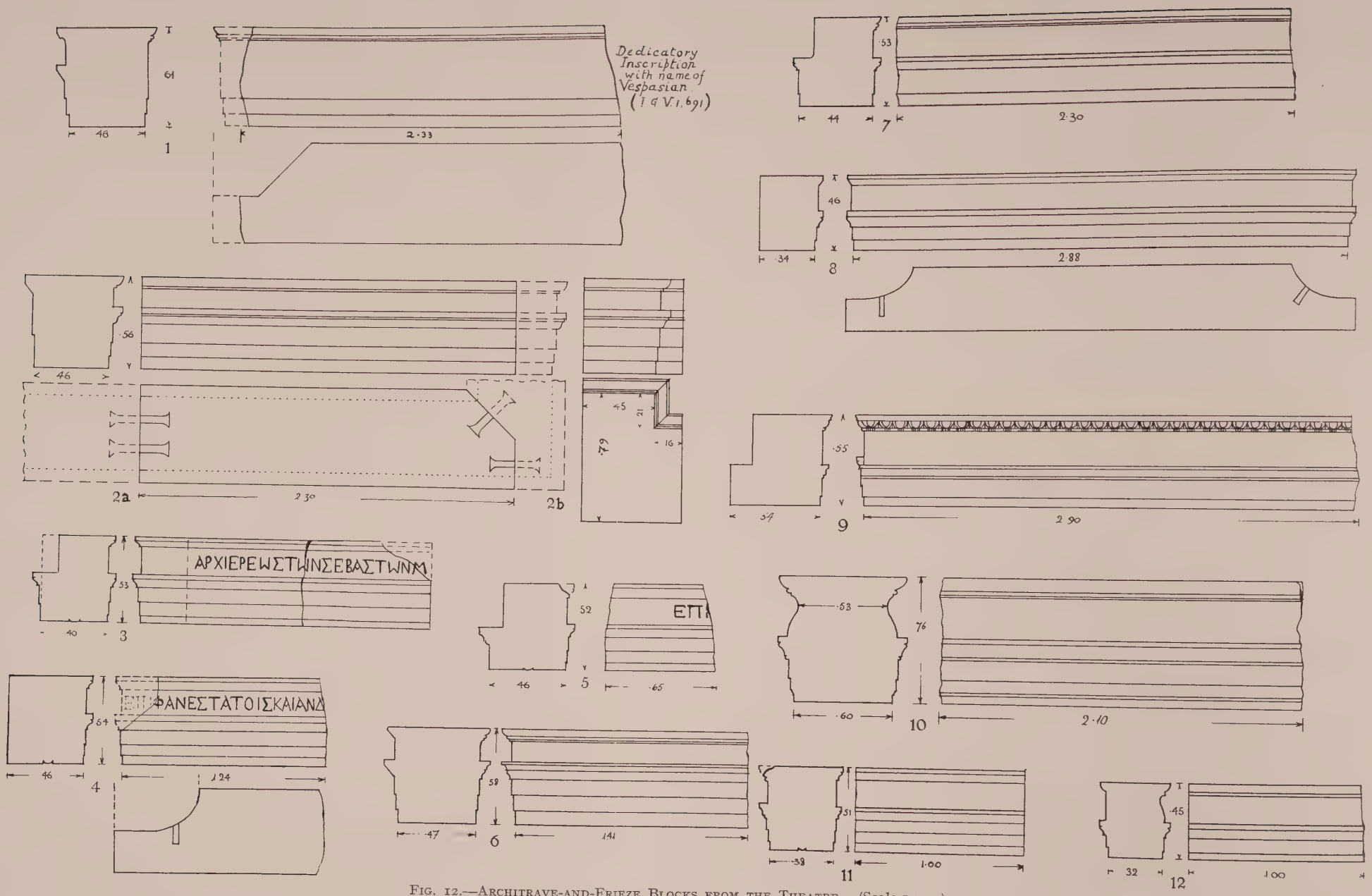


FIG. 12.—ARCHITRAVE-AND-FRIEZE BLOCKS FROM THE THEATRE. (Scale 1 : 30.)

[To face p. 185.

inscribed and have a similar beaded soffit, but exhibit other differences in details.

Ht. ·53 m.; depth ·40 m.; length of the various blocks as follows:—

(*a*) 1·48 m.; cutting for outward return on l., straight joint on r.; broken through. (Fig. 20, above.)

(*b*) *Ca.* 1·66 m.; straight joints at each end; broken into five pieces, of which two small ones, one from each end, are not shewn in the photograph (Fig. 20). This joins (*a*) on the right, and enables us to read the inscription on these two blocks thus: ἀρχιερέως τῶν Σεβαστῶν μ | ἐ ἀπὸ Διοσκούρων, ἱερέως κατὰ γένος Α (or Δ or Λ) - -. The text is discussed below (p. 210).

(*c*) *Ca.* ·80 m.; complete on r., apparently with the end of the inscription [- - θε]οῦ Λυκούργου. The lower moulding of the frieze has been cut down, at a later date. Letters more crowded than those on (*a* + *b*) but of similar style and height.

(*d*) 1·15 m., uninscribed: broken at both ends.

(*e*, *f*) Two small fragments, of which I can give no details: uninscribed.

(*g*) *Ca.* 1·20 m. An inscribed block, found in 1906, which from long use as a threshold in a Byzantine house has had its mouldings almost worn away, and its inscription is only legible at the beginning and end. The letters, as far as can be judged, are pretty similar to those of (*a* + *b*), and especially to those of (*c*), but do not by themselves warrant us in grouping it with those blocks; as, however, the height (·52 m.) agrees closely, and this block was found in the same house as (*b*), which served as a door-jamb there, with (*a*) and (*c*) not far away, it seems reasonable to accept it also as belonging to this series.[1] Even with this addition we only obtain about seven metres' length, with one certain indication of a return, of this type of architrave. As will be seen later, the evidence from the inscription compels us to date this type to the beginning of the third century of our era.

4. Similar marble: the profile of the frieze-mouldings is very similar to that of No. 3, but the soffit is ·46 m. deep (as compared with ·40 m.), and the inner face has the lower frieze-moulding nearly ·02 m. lower than that on the front-face; the upper moulding is also appreciably larger than that of No. 3. Four blocks in all, of which (*a*) and (*b*) are inscribed.

(*a*) Length 1·24 m.; ht. ·54 m.; depth ·46 m.; broken on r., complete below on l., with moulding returning on itself; the top left-hand corner is missing, but is restored in the drawing, to shew the start of the inscription. Unworked at the back, except for a quadrant-shaped cutting to take the return-block. Inscription [Ἐπι]φανεστάτοις καὶ ἀνδ[ρειοτάτοις - -] (see below).

(*b*) Length 1·285 m.; other dimensions as for (*a*); straight joint on l., broken on r.; two fasciae on inner face, which is broken away above lower moulding of frieze. Rectangular clamp at each end, shewing that the break on the right is quite close to the original joint, unless the clamps at this end were

[1] I must accordingly retract my opinion (*B.S.A.* xxvii. p. 206, note 2) that it could not have belonged to this series.

for the repair of a fracture in antiquity. In the former case, the original length cannot have exceeded 1·32 m. The inscription [Γαλ]ερίῳ Οὐαλερίῳ Μαξιμιανῷ clearly belongs to the same text as that on (*a*), but owing to the uncertainty of the restoration we cannot tell how much is lost from between these two blocks.

(*c*, *d*) Two smaller blocks, one of which has a quadrant-cutting for a return but no return of the mouldings, and another broken at both ends; both are uninscribed.

The points of resemblance and of difference between types 3 and 4 have been stressed above, and it seems impossible to decide definitely the relation between them. Whilst the differences in dimensions would form no obstacle to our grouping them together, judging by third-century standards, the evidence furnished by the inscription, in spite of similarity of lettering, is not convincing. Perhaps the truth lies in the suggestion that type 4 represents repairs made *ca.* 300 A.D. to an earlier architrave, namely type 3, and that the names of the contemporary Emperors were substituted for those engraved on the original at its commencement near the east end of the stage, without interfering with the inscription at the west end, namely, the portion surviving in the blocks of type 3.[1]

5. Apparently the sole inscribed block to survive from a type somewhat like Nos. 3 and 4. Length ·65 m.; ht. ·52 m.; depth ·46 m. We may note the unusually heavy moulding on the inner face, above which is a cutting, no doubt to take a coffer-block, with only a single fascia below it. The bead-moulding along the soffit is shallower and narrower than on Nos. 3 and 4; and the inscription Ἐπι - - is in rather smaller letters, and is spaced above the centre of the frieze. It might nevertheless be grouped with types 3 and 4 if we regard it as a portion of a repair, later than No. 4; see also below, p. 214 f.

6. Ht. ·58 m.; depth ·47 m.; no bead-moulding on soffit. Three fasciae on each face and frieze-mouldings of good profile on front. Length of the three fragments found :—

(*a*) 1·48 m.; straight joint on l., broken on r.

(*b*) 1·12 m.; broken at both ends.

(*c*) 1·45 m.; (found in 1906); broken on r., mouldings return on l.

Except for the absence of inscription, and the height being three centimetres less (·58 as against ·61 m.) this is strikingly like type 1, and might be nearly contemporary with it, though the difference in height seems to forbid us to group them together.

7. Ht. ·53 m.; depth ·44 m.; two fasciae only on each face of the architrave.

(*a*) Length 2·30 m. (found in 1906 outside west wall of stage-buildings); broken at both ends : cutting to take coffer-blocks at back.

(*b*) Length not recorded; (found in centre of stage, 1926).

[1] The frieze-profile on the two inscribed blocks gave me the impression that there might have been some deepening of the original surface, due to erasing a previous inscription and then dressing the surface to take a new one.

The cutting at the back of (*a*) suggests that this formed the front portion of the architrave over a pair of columns on a projecting pier, but it seems difficult to connect it with any other type, as it has only two fasciae.

8. Ht. ·46 m.; depth ·34 m. The upper moulding of the frieze is merely a bevel, and the lower is disproportionately heavy. Two fasciae on the front face; the back is plain.

(*a*) Length 2·88 m.; a complete block, with quadrant-cuttings at the back, at each end; the mouldings return along the ends as far as the edge of these cuttings.

(*b*) Length 1·90 m.; broken at both ends.

(*c*, *d*) Smaller fragments, length not recorded.

(*a*) Must have spanned two projecting columns, and in view of its height (·46 m., as contrasted with *ca.* ·52–·54 m. for the majority of the other types) we are entitled to ascribe it to an upper Order; note the absence of cuttings for coffer-blocks.

9. Ht. ·55 m.; depth ·54 m.; distinguished by the egg-and-dart, with bead-and-reel below, on the upper moulding of the frieze.

(*a*) Length 2·90 m.; complete on left, broken on right; on the left-hand return the lower moulding is placed higher, and there are three fasciae, though only two on the front; cutting at back for coffer-blocks.

(*b*) Small fragment from upper edge of frieze (found at far end of E. Parodos, near external staircase, *B.S.A.* xxvii. pp. 183 ff.).

This can only have belonged, like No. 7, to a projecting pier, and seems fitted to the central pier, with a span of not less than 2·50 m. Its height forbids us to allot it to any but the lowest Order of the *Scenae Frons*.

10. A single block, broken at both ends, and built into the later wall bounding the stage-buildings on the west (found in 1906). Ht. ·76 m.; depth ·60 m.; length 2·10 m. This is distinguished from all the other architraves by its greater height, the cymation-like profile of the frieze,[1] and the beading at the junction of the two lowest fasciae.

The upper moulding, in conjunction with the other features, suggests a date not later than Hadrian. A somewhat similar frieze is to be seen on the 'Incantada' from Salonika, partly reconstructed in the Louvre.[2] We have neither capital nor shaft of a suitable scale for this large architrave, so it must remain isolated and unexplained.[3]

11. Ht. ·51 m.; depth ·38 m.; length 1·00 m.; broken on l., straight joint on r. Both faces are moulded alike, with three fasciae, but the lower frieze-moulding on the inner face is rather heavier than that on the outer. The beading on the soffit links this up with types 3–5, and its height is but

[1] The profile of the inner face is conjecturally shown as resembling the outer face.

[2] *Antiquities of Athens*, III. ch. ix. Pl. III.; *Marbres Antiques du Louvre*, p. 78, 1391–1404. See also P. Perdrizet's full publication, in *Monuments Piot*, xxxi.

[3] Possibly the largest of the column-bases, with an upper diameter of ·71 m., implying a shaft *ca.* ·64 m. in diameter below, may be part of the Order to which this architrave belongs; if so, we might ascribe to it the largest column-fragment found (No. 11, above).

little less than the average of theirs. On the other hand, the much smaller depth of the soffit leaves it very doubtful whether we should definitely associate it with them, even as an element in a repair.

12. Ht. ·45 m.; depth ·32 m. Two blocks of this type were found, close together, one in 1906 in the Byzantine gateway at the N.-W. corner of the stage-buildings, the other deep down in the filling of the latest stage. The larger piece, illustrated, is 1·00 m. long, with straight joint on l., broken on r. The outer face of the frieze has a profile resembling a reduced version of No. 10, and the inner face is curiously like the front face of No. 8, from which it only differs one centimetre in height, with its heavy lower frieze-moulding and its two fasciae. By its height and its small depth of soffit it seems, like No. 8, better adapted to an upper Order; and in view of its resemblance to No. 10, it may reasonably be suggested that Nos. 8 and 12 both belonged to the upper Order of the structure to which No. 10 formed the lower Order. And further, in the absence of suitable capitals or columns, we cannot justifiably ascribe them to the *Scenae Frons*, unless they were re-used at a late date with other elements of different types. Their original use may well have been for a colonnade outside the theatre on the west, or perhaps in an adjacent colonnade or gymnasium.

In addition to the above types, mention must be made of three inscribed blocks not shewn on Fig. 12. The first two differ entirely not only from each other, but from any of the twelve types just described; the third is perhaps a re-worked block of type 4.

13. (Fig. 22, 1.) Ht. ·30 m.; depth ·375 m.; length 1·05 m. Complete at each end, and unworked at the back. Inscription Πολυδάμας Φοιβίδα ἱερ[εὺς - -]. (See p. 217.)

This was found in a late wall above the *Hyposcenium*, and may easily have been brought from some sanctuary or other building in the vicinity; there seems no reason to connect it with the Theatre.

14. (Fig. 22, 2.) Architrave-block with two fasciae surmounted by a tall moulding ·20 m. high. Ht. ·42 m.; depth ·20 m. (broken behind); length ·62 m. Inscription in two lines - - Δεξιμάχου υἱόν, ἔκγονον | [- - λ]θ′ ἀπὸ Διοσκούρων. The restoration of the text is discussed below (p. 215 f.), and it is computed that a portion about ·75 m. in length is missing on the left. This is from a structure of uncertain nature and purpose, and if it had a frieze it must have been formed of a separate block. Again, we need not seek to ascribe it structurally to the Theatre.

15. (Fig. 21, 16.) Ht. *ca.* ·52 m.; depth ·45m.; length ·76 m. Profile almost as Nos. 3–5 above, with three fasciae in front and two at back. Straight joint on l., broken on r. Inscription καὶ Φλ. Ὀνορίῳ - -. This is the only certain block of an architrave bearing a dedication to Honorius and one or more colleagues, but perhaps, in spite of the different profile of the back, we should associate with it type No. 5, which is very similar in height and depth, and the lettering of the inscriptions on these two blocks is not at all unlike. We may go

further and suggest that blocks with the names of Honorius and his colleagues may have been substituted for those of Maximianus and his colleagues in a final repair of the architrave of type 3 + 4.

This enumeration of the various types has shewn us that the fifteen different varieties which they comprise admit of considerable reduction when we try to sort them for purposes of reconstruction. Thus, Nos. 13 and 14 seem accidental intruders; No. 10 seems too large to have belonged to the stage-buildings, and Nos. 8 and 12, both on a smaller scale, seem by their points of similarity to it to stand or fall, preferably fall, with it. Further, Nos. 5 and 15 appear to belong together, and may represent merely a late and local repair to type 4, which in turn is closely associated with type 3, even if it is not contemporary in origin. And again, No. 6 might quite possibly be associated with No. 1, in spite of being three centimetres less in height. This leaves us with at any rate three main types, namely 1 + 6(?); 2; and 3 + 4 (+ 5 + 15?). Nos. 7 and 9 in view of their style seem to be exceptional blocks used, perhaps as repairs, to span unusually wide openings, presumably between pairs of columns on projecting piers[1]; and finally No. 11, in view of its soffit-depth of only ·38 m., may have belonged to an upper Order, in spite of its height being as much as ·51 m., very little less than that of the blocks which we must allot definitely to the lower Order.

(5, 6.) *Cornices and Coffering-Blocks.*

The various types of cornice found are, fortunately, less numerous than the architrave-types, but are little less bewildering. Here again it is necessary to leave out of account some fragments too small and too much damaged to allow of classification among the recognised types; or, if they are in fact distinct, it is impossible to reconstruct their type satisfactorily. Seven types are reproduced on Fig. 13 (Nos. 2–8), and the numerous inscribed pieces on Fig. 21. The details of the types and of the blocks belonging to each are as follows:

1. (Fig. 13, 2.) Bluish grey Laconian marble. Ht. at back ·32 m., in front ·30 m.; depth ·67 m.; dentils ·045 × ·06, ·042 m. apart. The upper surface slopes slightly downward towards the front.

(*a*) Length 1·235 m.; straight joint at each end.

(*b*) Length ·85 m.; broken at each end.

[1] The possibility that one or more may have been a lintel from a doorway of the *Scenae Frons* must not be left unmentioned.

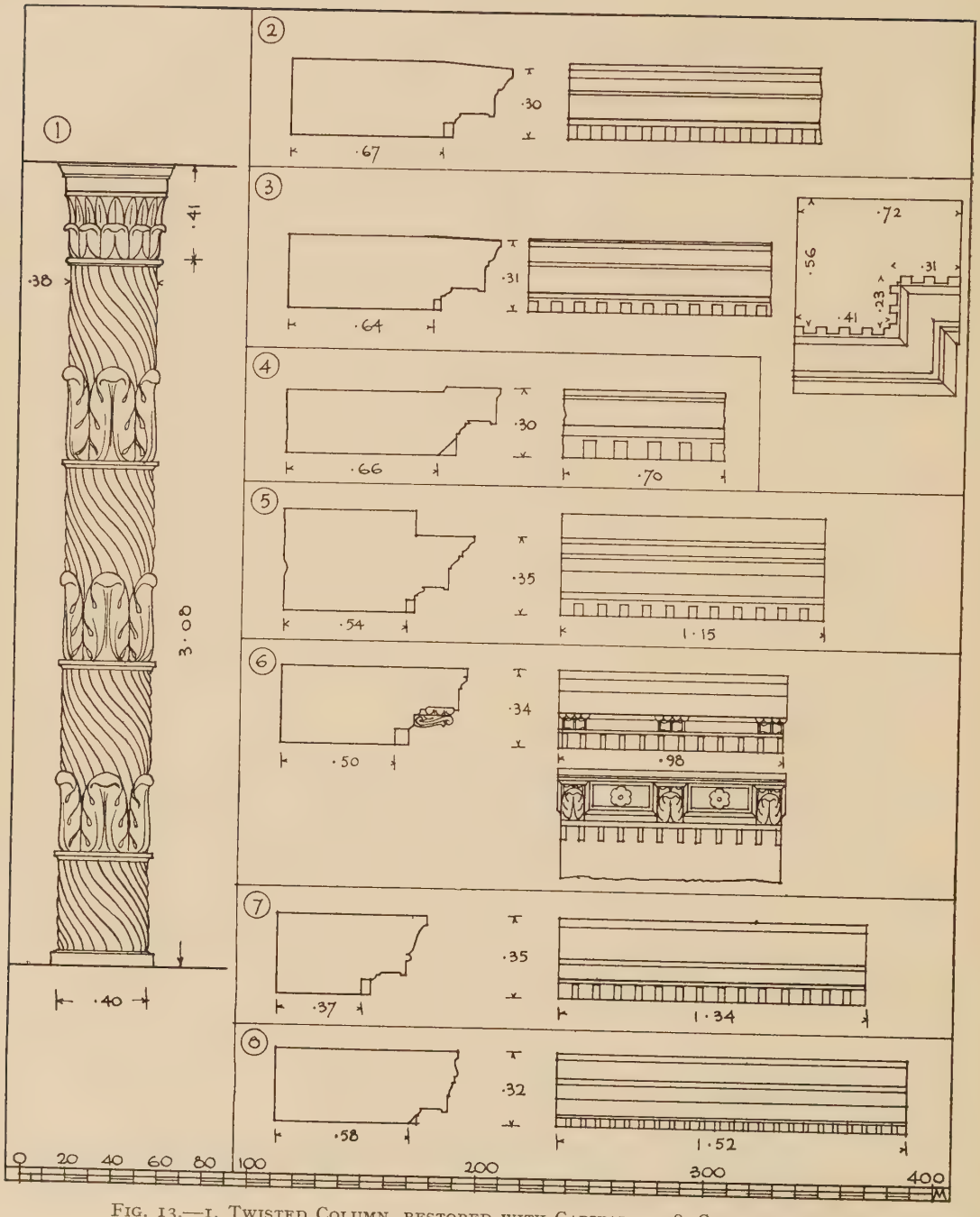


FIG. 13.—1, TWISTED COLUMN, RESTORED WITH CAPITAL; 2–8, CORNICE-BLOCKS. (Scale 1 : 30).

2. (Fig. 13, 3.) Very similar in style, with little or no slope on top. Ht. averages ·31 m.; dentils vary considerably in size, *e.g.* from *ca.* ·048 to 0·66 m. in width.

Inscribed blocks. (*a*) Length ·67 m., straight joint on l., inscribed face much chipped. For the inscriptions see below, pp. 217 ff.

(*b*) Depth ·63 m.; length ·62 m.; straight joint on r.

(*c*) Depth ·87 m.; length 1·17 m.; shallow circular cutting, with clamp-hole, on upper surface (cf. Fig. 15, 4); straight joints at each end.

(*d*) Depth *ca.* ·90 m.; length ·60 m.; straight joint on l.

(*e*) Length *ca.* ·55 m. Broken at each end.

(*f*) Depth 1·75 m.; length ·87 m.; complete block, with straight joint on r. and return of mouldings along left side; shallow sinking on top, as on (*c*), for which see Fig. 15, 1. This, with a vacant space before the first word of the inscription, may very likely have contained the beginning of the text. It was found, probably close to where it originally fell, above the N.-E. corner of the *Hyposcenium*, which suggests that it stood above the east column on the eastern-most of the projecting piers mentioned already.

(*g*) Broken at both ends and behind: length ·26 m.

(*h*) Similar fragment: length ·24 m.

(*j*) Broken on r., mouldings return on l.; inscribed on face only. Length ·20 m.; depth *ca.* ·25 m.

(*k*) Depth ·84 m.; length ·58, but of inscribed face only ·29 m.; broken at both ends.

(*l*) Fragment with remains of coffering in angle: depth *ca.* ·60 m.; dentils return along the angle, but inscribed fascia and mouldings above are preserved on the face only.[1]

(*m*) Broken at both ends: length ·24 m.

Uninscribed blocks. (*n*) Depth ·92 m.; length 1·67 m.; broken on l., straight joint on r.

(*o*) Complete block: depth ·56 m.; length ·72 m.; with set-back ·23 m. deep at ·31 m. from right-hand edge. (Cf. the similar set-back on architrave 2 (*b*).)

(*p*) Much broken: length ·37 m.

(*q*) Much broken: length ·25 m.

The differences between types 1 and 2 are so small that we need feel no serious objection to grouping them together. The inscription on 2 refers, I feel sure, to the repairs carried out by order of the Proconsul Ampelius, and is therefore to be dated to *ca.* 359 A.D., but this need not imply that the restoration which it apparently commemorates involved the cutting of new cornice-blocks; and, in spite of the irregularities of the dentils, this cornice may well have formed part of a much earlier order than the date implied by the inscription.

3. (Fig. 13, 4.) White marble. Distinctive features are the large dentils, of

[1] It is possible that this should be allotted to the upper Order, as it combines cornice and coffered roof.

which the background slopes backwards at 45°, the plain fillet and chamfer above the fascia, and the inscription, in bold, well-cut letters. Four pieces only came to light, three of which are inscribed. (Cf. Fig. 21, 13 *a–c*.)

(*a*) Depth ·66 m., length ·70 m.; ht. ·30 m.; straight joint on r., broken on l. Inscribed - - σὺν τοῖς (cf. p. 220).

(*b*) Complete above only; two small pieces which join, to give a total length of *ca.* ·30 m. Inscribed διὰ β (?), with leaf-ornament after A.

(*c*) Broken at each end and behind: length ·20 m. Inscribed AO.

(*d*) Uninscribed: length 1·10 m.; broken at each end.

I can make no satisfactory sense of the inscription, but it is obvious that several inscribed blocks must be missing, as well as uninscribed; and we are scarcely justified in assigning this type to the *Scenae Frons* in view of the small amount surviving, though its scale would suit well enough.[1]

4. (Fig. 13, 5). Laconian marble. Distinguishable from types 1 and 2 as the fascia above the dentils is only ·10 m. high, and above it is a *cyma* separated by a plain fillet from a *cyma reversa*, whereas 1 and 2 have *cyma reversa* only. No pieces of this type are inscribed. Here again the dentils vary considerably, but the normal width may be taken as ·067 m.; their height fluctuates between ·03 and ·055 m. The following blocks represent this type :—

(*a*) Depth ·54 m.; length 1·56 m.; ht. in front ·35 m., rising by a step ·10 m. in height, at ·25 m. from the front, to ·45 m., presumably as a plinth for a column-base of the upper Order. Straight joint at each end.

(*b*) Length 1·44 m.; plinth above, making total height ·50 m. Re-entrant angle.

(*c*) Length 1·31 m.; depth ·375 m.; ht. including plinth ·405 m.

(*d*) Length 1·29 m., with return ·52 m. deep (along the soffit); two straight joints.

(*e*) Length 1·25 m., broken at each end.

(*f*) Length 1·00 m., broken at each end.

(*g*) Length ·75 m., ditto.

(*h*) Length ·65 m., straight joint on r.

(*j*) Length ·65 m., broken at each end.

(*k*) Length ·33 m., ditto.

(*l*, *m*) Two other broken fragments.

It will be noted that only three blocks have the plinth above, the rest being plain, and that the plinth in one case is ·055, in another ·10 and in the third ·15 m. high. The length of (*a*), 1·57 m., is the greatest preserved on any type of cornice from the site.

This is the pattern suggested for the reconstruction with the architrave of our type 2, which is dealt with more fully below (p. 203 f.).

[1] Its simple profile would seem to fit it better for a cornice crowning a plain wall than for a free-standing colonnade. If it belonged to the *Scenae Frons*, this would imply that it may (presumably) have broken forward on to columns standing close against a solid wall (cf. the W. end of the Stoa of Hadrian at Athens). For a structure of this type we lack, however, the necessary architrave blocks with plain backs.

5. (Figs. 13, 6 and 14.) Distinguished from the other types by its modillions, between which are small rosettes in oblong panels. Depth ·50 m., maximum depth ·80 m.; ht. ·34 m. Besides the piece illustrated, which is ·98 m. long, with straight joint on r., but broken on l. (the left-hand modillion, shewn in the drawing, is nearly all missing), only a small fragment came to light, with dentils and remains of the egg-and-dart moulding from the panel above them.[1] In the circumstances it would be rash to conjecture whether at any date an ornate cornice of this type extended the whole length of the stage-buildings. If it was exceptional, it might have been confined to door-openings.

6. (Fig. 13, 7.) A cornice of more massive type, with narrow fascia and *cyma reversa* above. Depth ·37 m., maximum depth ·65 m.; ht. ·35 m. One block only has been preserved, length 1·34 m., with straight joints at each end. The

FIG. 14.—CORNICE-BLOCK WITH MODILLIONS (Type 5).

profile implies a relatively early date, and this type accordingly is employed, with the Vespasian-architrave, in the restoration described below (cf. Fig. 17, 1).

7. (Fig. 13, 8.) A cornice of singularly debased profile. Ht. ·32 m.; depth ·58 m., maximum depth ·80 m. Dentils ·04 high, and wide, ·03 m. apart, with sloping background.

(*a*) Length 1·52 m., straight joint at each end.

(*b*) Broken at both ends, length not recorded.

There are about ten other fragments too incomplete for inclusion here, more than one of which may represent a type not in the above list. It is worth noting that one has dentils ·073 m. high and ·06 m. wide; another has dentils ·06 m. wide, and ·026 m. apart; and a third, on a smaller scale, has dentils only ·03 m. wide. Yet another is like a small-scale version of type 4, and can

[1] The egg-and-dart moulding, seen on the photograph, which runs round three sides of the sunk panels, has been omitted, by an oversight, from the drawing.

have been only about ·28 m. high; which would be suitable enough for an upper Order.

Finally mention must be made of two exceptional pieces, which seem to belong respectively to the coping and the string-course of the retaining-walls; and their finding-places lend confirmation to this view.

8. (Fig. 15, 2.) Laconian marble: ht. ·26 m.; depth ·77 m.; length 1·50 m. Two similar blocks with clamp-holes at one end only. One has two ivy-leaves faintly incised on the soffit. Found in Nymphaeum, in front of west retaining-wall, 1927.

9. (Fig. 15, 3.) Block of similar style, but ·36 m. high, with fascia in

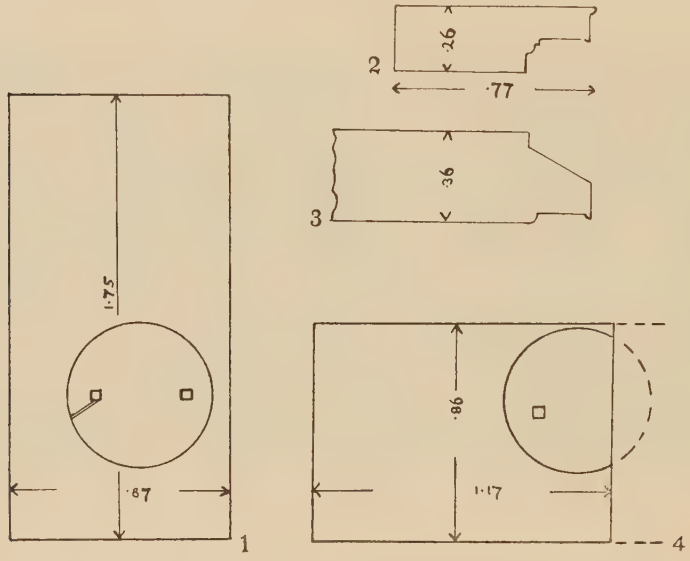


FIG. 15.—1 AND 4, UPPER SURFACES OF TWO CORNICE-BLOCKS WITH CIRCULAR SINKINGS; 2, COPING-BLOCK; 3, BLOCK FROM STRING-COURSE.

front ·14 m. high, above which the surface slopes upward to a small 'step'; behind this the upper surface is flat; below the fascia is an undercut surface, ·22 m. deep, and behind this the soffit is flat. Found in front of the S.-E. angle of the retaining-wall, 1927.

No. 8 is perhaps a coping-block, and No. 9 from the string-course. The east wall of the Stoa of Hadrian at Athens has a similar moulded coping, though not identical in profile with the former of these blocks.[1]

[1] Cf. Sisson's admirable publication of the Stoa of Hadrian, in *Papers, B.S.R.*, xi. pp. 50 ff.; for the coping, Fig. 1 and Pl. XIX. B. Cf. also Stuart and Revett, *op. cit.* I. ch. v. Pl. III.

The height of No. 9 (·36 m.) is almost the same as the average height of the marble facing-blocks of the retaining-walls. We have no sure indication of its original position on the face of the wall, but it may very likely have run at the level of the *diazoma*.[1]

6. *Coffering-Blocks.*

Even the coffering exhibits the characteristic irregularities of type with which the other architectural details have by now made us familiar. Nine blocks, in all, were found, of which only one was complete (though broken into three pieces), and such measurements as are available for the more fragmentary blocks shew that seven, if not eight, different patterns are represented, and all the blocks are of different dimensions. The three best-preserved examples are shewn on Fig. 16, and my list begins with these :—

(1) Ht. ·46 m.; br. ·66 m.; length 1·70 m. (incomplete, originally *ca.* 2·35 m.). Unworked surface of bed ·84 m. long; outer border of coffer ·61 × ·55 m.; interval between coffers ·105 m., with no bead moulding.

(2) Ht. ·45 m.; br. ·71 m.; length 2·37 m. (complete). Unworked surfaces ·85 m. and ·27 m.; outer border of coffer ·53–·54 m. × ·49 m.; interval ·18 m.; beading between panels ends near one edge, but continues to other edge, shewing that this was one of the outside pair of a group.

(3) Ht. ·45 m. (?); br. ·70 m.; length 1·77 m. (incomplete, originally *ca.* 2·35 m.). Unworked surface ·88 m. long; outer border of coffer ·515 × ·54 m.; interval ·13 m.; beading between panels is no wider than they are, and thus was not continued across to adjoining blocks. Note that the longer axis of the panel runs across the block, and not, as in Nos. 1 and 2, along it.

(4) Broken at both ends : br. ·78 m.; innermost panel of coffer, with five-petalled rosette, is ·35 m. square.

(5) Broken on all sides, with remains of one panel measuring ·22 × ·29 m.; this most nearly resembles No. 2, where the central panel is ·27 × ·21 m.; the breadth seems to have been less than ·70 m., perhaps *ca.* ·67 m.

(6) Fragment with one coffer nearly complete, and part of one side of the block preserved. Length ·68 m.; br. *ca.* ·60 (incomplete; originally perhaps *ca.* ·70 m., as Nos. 1, 2 and 3). Central panel, measuring ·31 × ·28 m., has a rosette of five thin petals.

[1] This would bring it to the 27th or 28th course above the paving-level at the foot of the external staircase (*B.S.A.* xxvii. p. 183 f.), as the *diazoma* is 9·90 m. above this level. Twenty-seven courses each ·365 m. high would give us 9·855 m., or, if ·37 m. high, 9·99 m. In any case I rather distrust the indication of a string-course in Le Roy's view (*Ruines des plus beaux Monuments*, Pl. XIII), though I previously accepted it (*B.S.A.* xxvi. p. 120); he shews a string-course at the S.-W. angle of the retaining-wall, on the W. return, 12 courses (say 4·40 m.) above the ground-level at the time of his visit.

(7) Shallower type: height *ca.* ·36 m.; fragment from angle of cornice (= type 2 (*l*) above); details of coffer not ascertainable, owing to breakage.

(8) Height *ca.* ·30 m.; br. ·71 m.; length *ca.* ·45 m. (broken); outer border of coffer ·63 m. wide, length unknown. Unworked soffit ·25 m. wide, on which is a beading ·04 m. wide, with one end complete. This has remains of a cornice above, and its shallowness indicates that it may come from the upper Order.

(9) Fragment with remains of two coffers: height *ca.* ·30 m.; br. *ca.* ·89 m.;

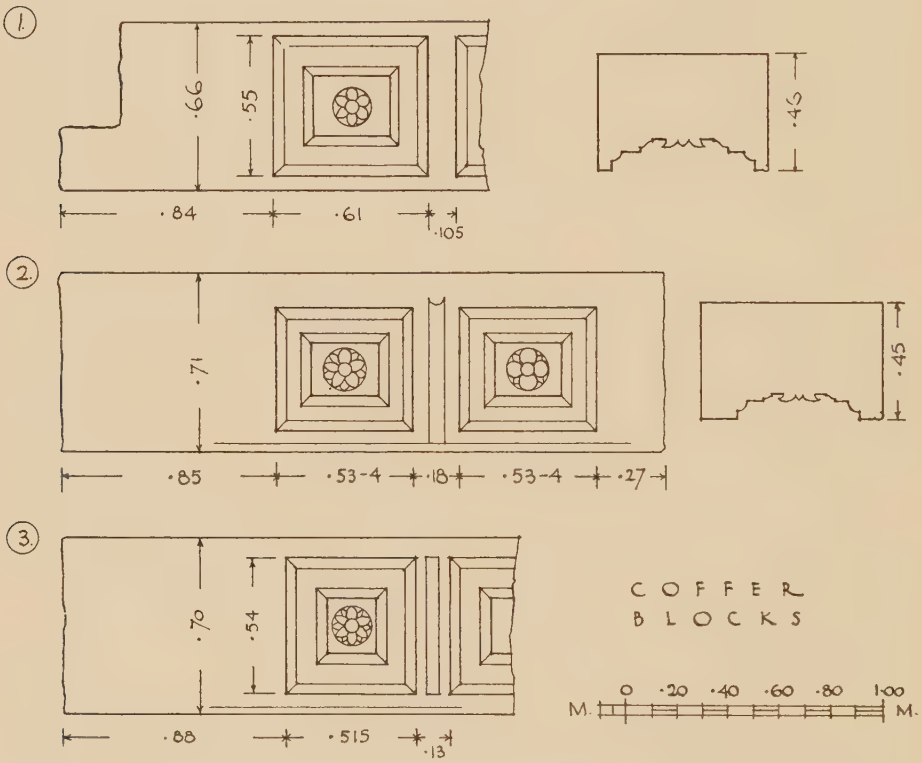


FIG. 16.—COFFER-BLOCKS, SHEWING DIFFERENCES IN DETAILS.

outer border measures ·63 × ·76 m.; the innermost panel is ·28 m. square. Interval ·13 m., with beading ·05 m. wide, with one end complete; this also, (cf. No. 2) was the outside block of a group.

No further argument need be adduced to shew how various are the types contained in this list. It seems permissible to allot the blocks with a depth of *ca.* ·45 m. to the lower Order, and those of less depth, whether ·36 or ·30 m. to the upper Order. If we could postulate a third Order, the

depth of ·30 m. would suit it well, but, perversely, this goes with the widest block of all (No. 9). On the other hand, the shallower depth of the last-named may be merely an indication of a different, presumably later, date. With regard to the position on the building, there seems no place for a coffered ceiling-beam except over the projections resting on the three pairs of piers already alluded to; and *ex hypothesi* Nos. 7 and 8 which combine coffers and cornice would belong to the similar projections at the upper level. Reconstruction of the system used must proceed from the fact that the intercolumniation of the central projection seems to have been exactly 3 metres, and that of the flanking ones 2·80 m. It is clear, in the first place, that the same number of beams of the same width would not fit the wider projection as well as the two narrower unless the cuttings on the inner faces of the architraves on which they rested differed by the requisite depth. Four blocks, each ·70 m. wide, would exactly fit the space of 2·80 m. for the lateral projections, if their edges rested over the axes of the columns, but would be ten cm. short of the axes for the central opening. This might be our enforced solution, if we had not evidence to the contrary in the shape of the coffer-block of type (1), which is only ·66 m. wide; and moreover we have architrave-blocks of type 3, with the cutting to take the coffer-blocks only ·16 m. deep, out of a soffit-depth of ·44 m.; and, moreover, no architrave-block of any type has a cutting for this purpose equal to half the depth of the soffit. I would suggest that the difficulty might be met, even if not convincingly overcome, by employing four wide blocks for the central opening, giving a span of 2·80 or even 2·84 m. (if there were four blocks each ·71 m. wide), and assuming the cuttings to have been each ·08–·10 m. less in depth than half the depth of the soffit; while that perhaps for the narrower spans use was made of two flanking blocks of ·70–·71 m. with two central ones of ·66 m. in width, giving a roof-span of 2·72–2·74 m., which would bring the edges of the flanking blocks within ·03–·04 m. of the axial line of the columns. It might, on the other hand, be simpler to allot four of the narrow blocks (making a total span of 2·64 m.) to the lateral projections, bringing the beam-edges ·08 m. short of the axial line on each side. We cannot hope for more than an approximate solution to the problem, but the latter suggestion seems to involve less improbabilities, and to have the merit of greater simplicity.

The incomplete blocks must not delay us, but the exceptional type

—*ca.* ·89 m. wide—which I am tempted to allot to an upper storey, seems only explicable as forming a third, not a quarter, of a roof-span, for ·89 m. × 3 gives us 2·67 m., a very close approximation to the width of four blocks of ·66 m. (2·64 m.), and its abnormally large panel would suit this view admirably.

It remains to add that the unworked soffit, which varies from ·84–·88 m. on the three blocks which have it complete, was long enough to project some ·35 m. behind the axis of the columns standing on the *Scenae Frons*. The exact distance must remain uncertain, as we cannot tell how much of the other end of the blocks rested on the front architrave; the maximum amount would be ·27 m. as determined by the unworked soffit-surface on type (2), but this, as we have seen, would bring it ·05 m. beyond the axis of the front columns, for the architrave had a soffit of only ·44 m.; and after all a cutting of the implied depth seems both unsound and unnecessary. Probably, then, there was some portion of the plain soffit visible from below, perhaps as much as ·09 m., leaving the remaining ·18 m. to rest on the cutting in the back of the architrave which forms the face of the projection.

§ 4. *Suggested Reconstructions.*

The inventory of the architectural details which has been given amply justifies our initial hesitation in proposing a full reconstruction of the *Scenae Frons* at any period, but certain important conclusions nevertheless emerge from it, which it is worth our while to emphasise here. In the first place, we have in no instance as much as a third of the total length required of any of the patterns of architrave or cornice, and usually a much smaller proportion. Secondly, we have no single fragment that could have belonged to a pediment, either triangular or curved, from the decoration of the façade, or to the *podium* separating the cornice of the lower Order from the column-bases of that above. Moreover, we have established that the lower Order was never Ionic, but always Corinthian, though some composite capitals were at one time employed also; and further that the Order above it was at one time certainly Corinthian, but may have been at one period Ionic. And lastly that there is possible, but not conclusive, evidence for the existence of a third Order above the second, which, if it existed, was very likely Ionic. The second consideration makes it improbable that there was ever an ornate façade of the type best repre-

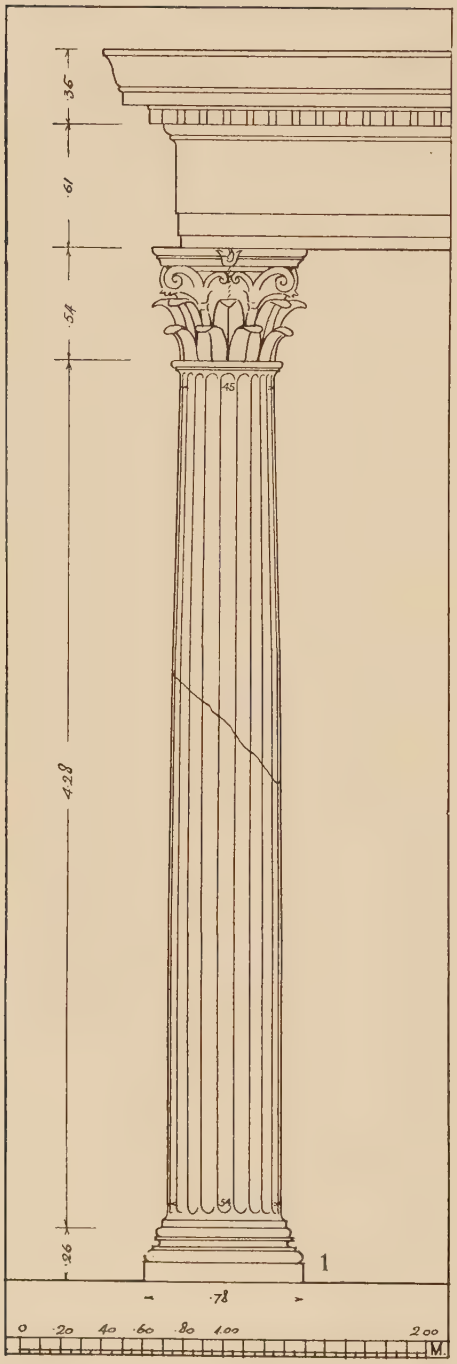
sented by those of Aspendus and Ephesus, and in its absence, and in view of the uncertainties about the Orders, our efforts at reconstruction must be limited to the suggestion of certain combinations of details, with a short discussion of the date and position to which they may have belonged. In no sense can these suggestions be regarded as final, and it is to be hoped that competent critics will be induced to offer alternative, and perhaps more convincing, restorations.

The first restoration proposed (Fig. 17, 1) consists of column-base No. 8, with a plinth ·78 m. square and an upper diameter of ·66 m.; fluted columns (type 3), whose diameter is ·54 m. below and ·45 m. above, and height (restored) 4·28 m.; capitals of a type that has not survived,[1] possibly associated with re-used specimens of type (1), of which the date can hardly be later than the Augustan era, though it might be earlier[2]; architrave of type (1) inscribed with the name of Vespasian as donor; and cornice of type (6) which alone has a profile suggesting a first century date.

This combination involves, however, certain objections which cannot be overlooked. It is admittedly rather strange that we should have found the remains of at least six columns of the type proposed, but no certain capital and only one block each of architrave (plus frieze) and of cornice. This argument may to some extent be met by the suggestion that capitals of type (1) may have been used as well as those made for it expressly, of which no specimen has survived, for we have no other structure of the first century at the Theatre to which to allot type (1); and moreover that some of the missing architrave-blocks may have been cut down for subsequent re-use on the site, and perhaps also some of the cornice-blocks re-cut at the same time. The survival of the larger proportion of shafts may well be due to re-employment, perhaps in a shortened form, for the total absence of their lower ends, from among more than a dozen pieces of substantial size, might well be so accounted for. We cannot hope to restore the length or exact plan of the colonnade under discussion, but the block of architrave gives us one clue—admittedly uncertain—as to the latter. As pointed out above, it returns on the left, and, though the

[1] A capital of type 3 is used in Mr. De Jong's drawing, but this must be of later date.

[2] See above, p. 179. As we have no Augustan structure to which to allot them, it would simplify matters if we could date these capitals to the Flavian period. There is, however, no evidence to support the view that the Augustan type survived so late, even at Sparta; or indeed that in Roman times Sparta was slower than the rest of Greece in following architectural fashion.



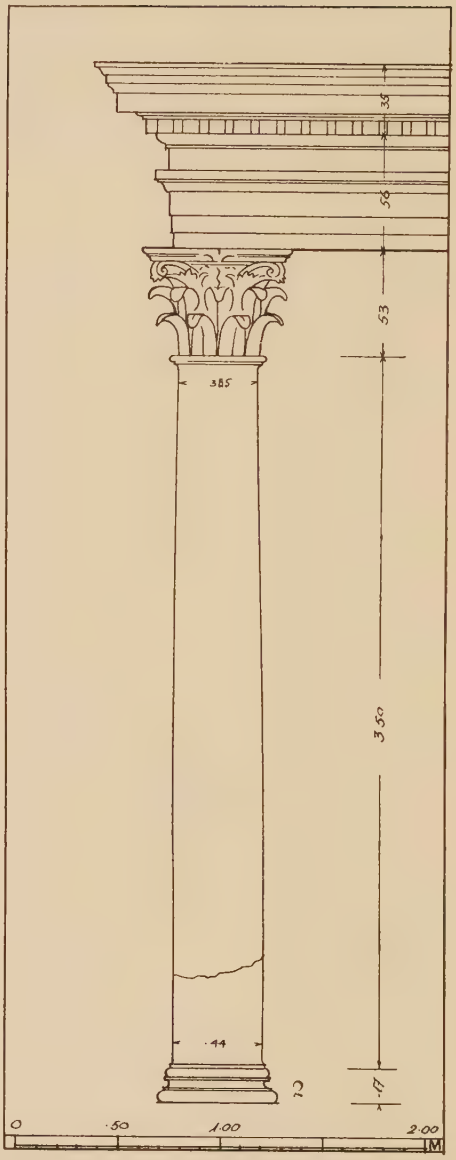


FIG. 17.—CONJECTURAL RESTORATIONS OF ORDERS: (1) OF STRUCTURE WITH NAME OF VESPASIAN ON FRIEZE; (2) OF COLONNADE ON *SCENAE FRONS* (3RD CENTURY A.D.).

right-hand edge of the block is lost, we may assume a similar return there, with a soffit-length for the block of *ca.* 2·80 m., to judge by the length of the inscription as restored (*ca.* 2·60 m. + ·10 m. blank at each end of the longest line). This would imply an intercolumniation of *ca.* 2·30–·35 m. for the columns supporting the inscription, but how this was related to the structure as a whole cannot be decided, for we have no other indication as to its plan.

For the position of the structure, two alternatives alone seem possible, namely either that it was a colonnade, perhaps in the form of a portal flanked with columns, with the inscription over the entrance, which possibly spanned one of the Parodoi, or that it was an essential part of the stage-buildings. If it was a portal we might expect it to have spanned the eastern Parodos, seeing that in this direction lay the Agora, and presumably the normal approach to the Theatre.[1] Little importance, I feel, need be attached to the fact that the cornice-block was found at the west end of the stage-buildings, and the inscribed architrave-block outside them on the west (assuming that Fourmont did not have it brought from elsewhere), whilst the column-fragments mostly lay near the centre of the stage, for the entablature-blocks may well have been moved at a late date to incorporate in the fortification-wall flanking the stage on the west, and the columns, as I suggested above, re-used for the façade of the stage. If, on the other hand, we endeavour to ascribe this colonnade to the stage itself, it is not easy to find a place for it. I have attempted to shew that the foundations, contemporary with the laying-out of the *cavea*, seem to have carried a Doric colonnade (p. 157), and if we reject this we have nothing to put in its place except our Corinthian colonnade, which by its inscription belongs to the Flavian era. This would leave us with no stage buildings at all of the Augustan age, to which the *cavea* almost certainly belongs. A further difficulty would be that we should require the foundations to break forward in the centre to carry the projecting inscribed portion of the architrave, whereas there is no trace whatsoever of their having done so. The same objection applies to the suggestion that this was substituted for the Doric colonnade, on the same foundations; and, moreover, a fact not

[1] For the approximate position of the Agora, see *B.S.A.* xii. p. 433 f.; the existence of an external staircase, leading to the *diazoma* on the E. alone, confirms our view that the normal approach was not from the west, and, moreover, the W. Parodos perhaps gave access merely to the Skenotheke in the original (Augustan) plan.

to be lightly set aside is that the foundations could scarcely have carried so massive an erection as the Vespasianic colonnade must have been. A more likely way out of the difficulty would be offered by the view that it must have stood further back, on some foundation no longer to be recognised, on the line of the later *Scenae Frons*. I scarcely think it possible that it could have stood at a low level, *i.e.* practically flush with the Orchestra, on the wall which in its remodelled form became the *Scenae Frons* in, probably, the third century of our era.[1] Here again, to account for the central projection we should have to postulate a pier in front of the main wall, presumably occupying the position of the middle of the three existing piers which cannot be earlier than the period of the raised stage.[2]

To sum up, we can find no suitable foundations for this colonnade if we would attribute it to the stage-buildings, any more than we can for its existence as a portal across the east Parodos. General considerations, however, tend to make the latter explanation more attractive, as the Emperor's gift might more appropriately have taken the form of a decorative approach than of an integral portion of the stage-façade, since the presence of his name as donor might imply that he had presented the stage-buildings as a whole, which he is extremely unlikely to have done; nor need we suspect him of wishing falsely to give such an impression.[3] In any case there is no clue to the circumstances in which Vespasian made this gift to Sparta, for we have no reason to suppose he ever visited it before or after his accession, or had any other incentive to display a generous impulse towards it.[4]

[1] Cf. *B.S.A.* xxvii. p. 193 f.

[2] *Op. cit.* p. 197 f.

[3] Zonaras tells us (xi. 17) that Vespasian did not put his own name on buildings which he restored. For his building-activities in general see Suet. *Vespasian*, 8, 9 *init.*, 17; and the evidence collected by Weinand in Pauly-Wissowa, vi. 2689 f. I have not seen H. C. Newton's *Epigraphical Evidence for the Reigns of Vespasian and Titus* (*Cornell Studies in Class. Philology*, XVI.).

[4] He is unlikely to have visited Sparta when in Greece with Nero, in 66 A.D., owing to the Emperor's refusal to go there (Dio Cassius, lxiii. 14, 3). Where he retired to, when dismissed for his social shortcomings, is not known, but he apparently sailed direct from Greece to Judaea on appointment to the Jewish command, early in 67. Though he passed through Greece on his way to Rome in 70, it must have been quite a brief visit (to Corinth only?), since, after leaving Alexandria in August and touching at the Lycian coast and at Rhodes he was back in Rome in late September or early October. Apart from our inscription his only recorded connection with Sparta is the rescript concerning *liberti* mentioned in Pliny's letter to Trajan, *Epp.* x. 65, 3. We can hardly presuppose personal interest in the demarcation of the Laconian-Messenian frontier recorded in *I.G.* V. 1, 1431.

The evidence for Vespasian's visits to Greece is usefully collected in Braithwaite's edition.

The second restoration suggested (Fig. 17, 2) is of later date, and combines the following details: column-base (No. 5) ·17 m. high; upper diameter ·52 m., lower ·58 m.; plain column (type 9) with lower diameter of ·44 m.; we have no certain piece from the top of the shaft, but if we group types (9) and (10) together we get a shaft with an upper diameter of *ca.* ·385 m., and a height of *ca.* 3·50 m. For the capital, type (8), with a lower diameter of ·40 m., seems the most suitable: this is the 'west-Roman' type, and cannot date from much before 200 A.D. and might even be appreciably later. The architrave (plus frieze) is of type (2), uninscribed, with the inner face, for the whole height of the block, divided into two fasciae only; and for the cornice, type (4) also uninscribed. With this Order we would employ the plain chamfered pedestals, described on p. 166, which are ·63 m. square, in spite of the fact that the lower *torus* of the base did not reach to the extreme edge—not a fatal objection in a construction of the third century, to which, on the evidence of the capitals, this Order would belong. The employment of the pedestals implies that our suggested Order stood on the *Scenae Frons*, for we found one of the pedestals *in situ* at the level of the raised stage, *i.e.* after the building of the *Hyposcenium.*[1] Here again certain difficulties cannot be ignored: in the first place, cornice and architrave are of different material, for the former is of grey marble, the latter of white. This does not seem an insuperable obstacle for a third century structure.[2] The second point to be considered is the fact that a considerable number of the architrave blocks are cut for returns, indicating a broken-fronted façade. This necessitates our assuming that the piers in front of the central doorway and of the two lateral openings were in existence, to carry the projecting pairs of columns which the broken front demands. At the same time it is distinctly improbable that the space between the *Scenae Frons* and the *Hyposcenium* can have been filled up with its packing of earth at the date implied, for more than one block of the architrave-type here proposed was

of Suetonius, *Vespasian*, pp. 30 and 44 f. For other Peloponnesian inscriptions to the Flavian House cf. *I.G.* IV. 584, a dedication to Titus at Argos, before 79 A.D., and *I.G.* IV. 670, a statue base to Vespasian copied at Nauplia by Fourmont (*C.I.G.* 1162) but no longer extant, which bears no indication of date.

[1] Cf. p. 166.

[2] The only cornice of white marble is that described above as type 3, of which we found only four pieces in all, two of them quite small. The remains of the inscription suggest a date not later than the Antonine era, whereas the numerous returns on the architrave of white marble indicate a broken front which cannot be dated so early.

found in this filling; and it is straining the probabilities to attribute their presence at this deep level to Byzantine activity. If the architrave is correctly identified, we must suppose that the stage was still covered with planks, over a hollow space, and that the piers for the projecting pairs of columns stood as islands surrounded by the planking. This seems a necessary conclusion, in view of the rubbish-pits which we found excavated against the stage side of the *Hyposcenium;* they are obviously later than the building of that wall, but earlier than the date when the area enclosed by it was filled up, as was pointed out in my second report (*B.S.A.* xxvii. p. 187 f.).

That this was not the final form of the façade is proved by the existence of the architrave of type (3), with the inscription of which a portion appears to have been re-cut under the Tetrarchy. As this is too massive to belong to the upper Order, we can only suppose that it was substituted for the uninscribed type assumed for our reconstruction, and perhaps continued in position, with occasional repairs, until the theatre was finally deserted. On this view, our suggested reconstruction cannot have stood for long, since the inscription on the original portion of the architrave of type (3) can hardly be later than 230 A.D. and might be appreciably earlier.[1]

We cannot leave out of account the problem of the number and arrangement of the columns of this lower Order, which stood on the *Scenae Frons* after it had been raised. It is immaterial whether we consider it before or after the filling up of the stage, since the length of the wall was not altered, and the front piers were not affected by this filling-up. The evidence is unsatisfactory, but it justifies an attempt at offering at least a partial solution of the problem. We get no convincing clue from the architraves in general, but it is to be noted that no architrave-block of type (2) has a straight joint at each end, though there are two, each of over two metres length, which are cut to take a return at one end or other. These must be connected with the projecting portions, resting on the forward piers. Of type (3) we have, however, a complete block, with a straight joint at each end, which is 1·66 m. long, and this proves to be important for our purpose. Moreover, we can fix the positions of the columns flanking the three doorways by the aid of the span from centre to centre of the bases on the front piers; thus, from the axis of the column east

[1] See below, pp. 212 ff.

of the western doorway to that of the column west of the central doorway is almost exactly 7·15 m.; and the distance separating the corresponding columns between the central and the eastern doorway is the same. The architrave-length 1·66 m. is not an exact fraction of this span, but we find the three intercolumniations of 1·65 m., flanked by two of 1·10 m. each, give us our total of 7·15 m. In other words there seem to have been six columns between each opening, and an uncertain number, to be discussed later, in the spaces between the two lateral openings and the ends of the wall. This result gains in conviction when we observe that the narrower intercolumniation is just two thirds of the wider one : if the architect is credited with using ·55 m. as his unit, his spacing works out from either end as ·55 m. × 2, × 3, × 3, × 3, × 2. For the end portions we have to face the difficulty arising from the fact that the stretch east of the E. doorway is ·75 m. longer than that west of the W. doorway, which obviously precludes a symmetrical arrangement.[1] The single plinth surviving *in situ* in the western portion is approximately 2·75 m. west of the axis of the column west of the W. opening, implying that here again the first intercolumniation was 1·10 m. and the second 1·65 m.; beyond this, possibly, there were two more columns each 1·10 m. apart, but this must remain conjectural. Symmetry demands that the columns beyond the E. opening corresponded at first with intercolumniations of 1·10 m. and then 1·65 m. to east of it, but beyond this we have to fall back on conjecture, and I would suggest that the two final intercolumniations (which have to total 2·95 m. as against our (assumed) 2·20 m. on the west) were each of 1·475 m. This we have no means of checking; and it is not impossible that I am wrong in suggesting as many as five columns for the end portions of the wall, but the survival *in situ* of the plinth above referred to, implying 1·10 m. + 1·65 m. for the spacing of the three columns nearest to the openings, makes it plain that the number cannot have been less than four. And if four are to be allotted to the eastern end of the wall, we must postulate an even wider intercolumniation than on the central portion. In the circumstances, five at each end seem to suit best, for it is hard to imagine that the architect would have compromised by putting four columns at the west end and five at the east, and thereby called special attention to the unsymmetrical plan of the wall.

The only other suggested combination, namely that of the spirally-

[1] *B.S.A.* xxvii, p. 193 f.

fluted shafts with the reed-and-acanthus capitals (Fig. 13, 1), gives us an incomplete Order, for neither architrave nor cornice can be found to go with them. As the columns are only 3·08 m. high, they are more fitted to an upper storey of the stage-front, and we may perhaps assume, in view of their ornate pattern, that they were not used for the whole length of an upper Order, but only in some conspicuous positions, perhaps flanking openings at the upper level. As to their date, we can only say that, since pieces of these shafts were found buried in the filling below the latest stage, they must antedate its final period; and on the other hand, that the quality of the cutting, both of capitals and columns, suggests that they are more likely to belong to the third than the second century of our era.[1] If it is correct to regard them as used for selected positions only, they may have accompanied the smaller Corinthian capitals of type No. 8, which, by their lower diameter of only ·33 m., seem appropriate for the upper Order of the façade.

§ 5. *Miscellaneous Marble Objects.*

A few marble objects of miscellaneous character may legitimately be added to the list of architectural marbles from the Theatre, though none of them belonged to it structurally.

1. (Fig. 18). Remains of marble support for a tripod: these comprise (*b*) a circular base, diameter ·835 below and ·71 m. above; ht. ·24 m.; with a plain base-moulding below and a plain scalloped moulding above. Through it runs a circular hole ·185 m. in diameter, and on the upper surface is a triskeles-shaped area, which is left rough-dressed, to carry a second course of appropriate profile, which was not found with it; (*a*) is a triskeles-shaped block, ·30 m. high, and measuring ·34 m. from the centre to the extremity of each leg, of which the width at the outer end is ·105 m. It also has a circular hole through its whole height, ·135 in diameter above, and ·175 m. below, and has three small clamp-holes in its upper surface, one near the end of each leg.

It is clear that a member is lost from between (*a*) and (*b*), as the prepared surface on (*b*) is too wide in all directions to take (*a*) exactly, and the assumption is that the profile of the missing member, which was, we may expect, moulded, diminished in the requisite proportion to take (*a*) with an exact fit, on its upper surface. A small piece from such a member,

[1] Though, as is pointed out above, this type of column goes back to the first century.

consisting of one broken-off ' leg ' only, was recognised (in the inventory) too late for study with the complete blocks, but it may well have belonged to our tripod-base; its height is ·18 m. and its proportional relation to the other blocks, respectively ·24 and ·30 m. high, seems an additional reason for connecting it with them; and, moreover, it seems to diminish in

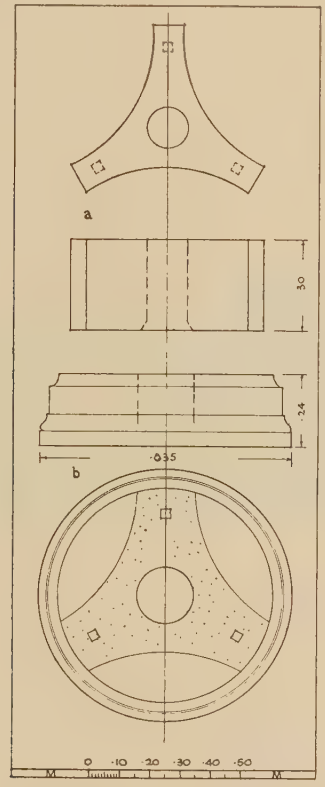


FIG. 18.—TWO BLOCKS FROM A MARBLE TRIPOD-SUPPORT.

diameter between the lower and upper surfaces to the desired extent. We must suppose that the tripod was supported on a stout central shaft passing through the hole in the middle of (*a*) and (*b*), but we cannot tell how tall it was, since other members may be missing from above the former. The cutting of the mouldings is moderately good, but whether we should date it to the Hellenistic or the early Imperial period I would not venture to say.

2. (Fig. 19). Marble statue-base, presumably for a Nike, in the form of a ship. Length 1·20 m.; ht. ·29 m. amidships; breadth, ·26 m. Amidships are cuttings for the feet of the statue which stood on this base, shewing that the feet were not more than ·20 m. long, implying a statue, if of Nike, not much less than life-sized. The base has been broken through, and repaired in antiquity with a metal clamp, of which the lead setting is preserved in the holes visible on the photograph. The statue stood with left foot advanced. There is no clue in the form of an inscription to the date or circumstances of this dedication.

3. Numerous fragments from palm-tree columns, or columnar supports, were found near and outside the west end of the stage. None was more than *ca.* ·40 m. long, and the maximum diameter of the shaft, or shafts,[1] may have been about ·40 m.[2] The workmanship was rough,

FIG. 19.—MARBLE STATUE-BASE IN THE FORM OF A SHIP. (Scale 1 : 16.)

and the purpose of the shafts must remain obscure, since we did not succeed in piecing any of the fragments together so as to indicate their original height. In any case it seems unlikely that they could have been intended for architectural use as columns.

4. The last, but by no means the least interesting among our marbles which calls for mention is a remarkable Byzantine capital, hollowed later for use as a font (reproduced on Plate XX). This was found just outside the fortress-wall which flanks the stage-buildings on the west. Its dimensions are :—ht. ·285 m.; abacus ·38 m. square; lower diameter ·30 m.; sinking for font ·15 m. deep, ·265 m. in diameter, with a shallow channel leading to one corner.

[1] There seemed to be enough pieces to form at least two shafts each two metres in height.

[2] No fragment gave us a complete section through the shaft at either end, and many of the pieces were only a few inches long.

At each angle is a pair of debased volutes, with a pine-cone below, and an acanthus-leaf filling the space between. On each face is a different animal subject, and the background is formed by a scroll of vegetation on (*a*) and (*d*) and a stylised acanthus on (*b*) and (*c*). The subjects are: (*a*) hare to r., eating bunch of grapes; (*b*) human-faced bird, with crest resembling a long wig, standing to r. with closed wings; behind is the fore-part of a scaly snake with projecting tongue, shewn as if almost springing from the bird's tail [1]; (*c*) quadruped to r., standing on the back of a calf or goat, of which it is biting the back of the neck; (*d*) bird (pelican or eagle?) standing to r., with its head bent down between its legs, as if biting its own stomach.

No very similar capital is known to me from any Byzantine site in Greece, but a capital of somewhat the same style, at the Evangelistria at Mistra,[2] with more sketchy pine-cones, seems a later version of the type, and the frieze in the Byzantine Museum at Athens, ascribed to the 12th century, shews an interesting parallel in the general rendering of the animal-motives.[3] Analogies can also be found in the capitals and other details of Byzantine churches in Apulia, of which casts, as well as many originals, are to be seen in the Museum at Bari.

§ 6. *The Architectural Inscriptions.* (Figs. 20–22.)

It is desirable, for the sake of completeness, to collect here all the architectural inscriptions found, whether in the preliminary excavations of 1906 or in the later campaigns of 1924–27. To facilitate reference they are arranged according to the members on which they are engraved, beginning with (A) the architrave-plus-frieze blocks.

1. Architrave plus frieze, type (1). *C.I.G.* 1305; *I.G.* V.1, 691.

[Αὐτ]οκράτωρ [Καῖσ]αρ Οὐεσπασ[ιανὸς Σεβ -]
[αστ]ός, ἀρχιε[ρε]ὺς μέγιστος, δη[μαρχικῆς]
[ἐξουσίας τὸ θ′, αὐτοκράτω[ρ τὸ ιθ′,]
[ὕπα]τος τὸ ή, Λακεδαιμονί[ων τῇ πόλει.]

Letters which have disappeared since this was first copied by Fourmont some 200 years ago are enclosed in square brackets, as well as those

[1] This appearance is presumably accidental, though this fantastic creature might well have had a snake as its tail.

[2] Wulff, *Altchrist. und Byzant. Kunst*, p. 509, Fig. 439. I am much indebted to Professor Weigand for this and the following parallel.

[3] Wulff, *op. cit.* p. 505, Fig. 435: Σωτηρίου, Ὁδηγὸς Βυζαντ. Μουσείου, 29 f., Fig. 12.

missing in his copy. The Editor of the *Corpus*, thinking that there must have been a fifth line, restored the text to end thus: '*Λακεδαιμονί[ων τῇ πό|λει κατεσκεύασεν], vel simile aliquid.*' This is wrong, since there were certainly only four lines, of which the restorations given above are free from doubt. The date is shewn by the titles to be 78 A.D.[1] The few facts known about Vespasian's relations with Greece are summarised above, p. 202, note 4.

2. Architrave plus frieze, type (3). (Figs. 20 and 21, 14 a-c.)

FIG. 20.—INSCRIBED BLOCKS FROM ARCHITRAVE-AND-FRIEZE (Type 3).

(*a* + *b*) *Ἀρχιερέως τῶν Σεβαστῶν μ|έ ἀ̣πὸ Διοσκούρων, ἱερέως κατὰ γένος Δ̣[ιοσκούρων* (?).]

(*c*) [- - *θε*]*οῦ Λυκούργου* (leaf ornament).

(*g*) - - *ς ἀριστοπολ̣[ειτευτοῦ . . . . . .]τ̣ος* (or *τ̣ου̣*).

As was pointed out above, it is not quite certain that (*c*) and (*g*) belong to the same inscription as (*a* + *b*), as the letters are slightly more cramped, though of the same height, and, as far as can be seen, of the same style. In (*g*) for a space of *ca.* ·65 m. after the *lambda*, practically all the letters are worn away, as a result of the stone having been used as a threshold in a Byzantine house, where it was found in 1906, with (*b*)

[1] He was *trib. pot.* IX. from July 1, 77–June 30, 78; *imp.* XIX. in the spring of 78; and *cos.* VIII. in 77 (*cos.* IX. in 79).

doing duty as a door-jamb in the same doorway. Judging by the spacing of the legible letters, about fifteen are lost between the Λ and the Τ; near the end of the gap are faint traces, which might possibly have been the letters ΡΕ, but two are completely lost from between them and the Τ. The last letter, preserved only in part, must have been Σ or Υ. (Tillyard noted Α after this point, but I have no doubt that the dubious *sigma* is the last letter on the block.) To fill the gap, we may regard *ἀριστοπολ-[ειτευτοῦ]* as certain, but I have no confident suggestion to offer for what followed, apparently . . . ῥ̣ε̣ . . τ̣ος̣ (or τ̣ου̣). The space seems slightly too long for [*ἰε*]ῥ̣έ̣[*ως*], and certainly too short for [*ἀρχιε*]ῥ̣έ̣*ως*, but perhaps we should after all read the former word, followed by τ̣οῦ̣ and the name of a divinity. No obvious alternative suggests itself if we read the last letter as *sigma*, for ῥ̣ε̣..τ̣ος̣ seems to lead to no intelligible sense. We must note, in any case, that the emendation published by Kolbe in the *Corpus* (V.1,614(1)) is quite out of the question, for his suggestion *ἀριστοπο[λείτου, ἐ]γγόν[ου Εὐρυκλέους]* implies only seven instead of about fifteen letters as lost, and the letters following the gap certainly cannot have been ΓΓΟΝ.

If (*c*) belongs to this inscription, it may, perhaps, have been the last of the inscribed blocks, in view of the leaf-ornament after the word *Λυκούργου*; and the completion of this phrase as [*ἱερέως θε*]*οῦ Λυκούργου*, coming at the end of a list of priesthoods, seems likely enough. Actually we have no other epigraphical evidence for such a priesthood, but in view of the literary evidence, furnished by Pausanias [1] and other writers for the cult of Lycurgus, the restoration needs no further defence. On internal grounds, then, this block may be confidently connected with (*g*) above, and regarded as possibly forming the end of the text to which (*a* + *b*) belong.

It remains to be seen if we can identify the bearer of the titles on (*a* + *b*) (and presumably (*g* + *c*)), namely *ἀρχιερέως τῶν Σεβαστῶν, με' ἀπὸ Διοσκούρων, ἱερέως κατὰ γένος Δ̣[ιοσκούρων* (?) - - - -]*ἀριστοπολ[ειτευτοῦ ἰε*]ῥ̣έ̣[*ως*] τ̣οῦ̣ (?) - -. We have a large number of inscriptions containing the names of High-priests of the Emperor(s) at Sparta,[2] and several others relating to descent from the Dioscuri, but the combination

[1] iii. 16, 6; and cf. the authorities collected by Ziehen, in Pauly-Wissowa, *s.v.* Sparta, col. 1496 f.

[2] At least fourteen different holders of this priesthood are known. Cf. *I.G.* V. 1, Index vi. 2, *s.vv.* *ἀρχιερεύς*, and *Σεβαστοί*; and add to this list *B.S.A.* xxix. p. 35, No. 58.

of these two distinctions is much rarer, for we find it in only two families. The first of these seems to have ended, as far as we can trace it in the male line, with C. Julius Eurykles Herklanos, 36th from the Dioscuri, who died before the end of Hadrian's reign.[1] The other family proves to possess the needed person, even if we cannot be sure of his name; in alluding to this inscription in a previous report [2] I had rightly recognised the family, but selected the wrong member of it, for identification in this connection. The crucial inscription in this context is *I.G.* V. 1, 559, a portrait-herm, found at Amyclae, with the name and titles of *Σέ[κστος] Εὔδαμος Ὀνασικράτ̣ε[ος, μ'.] ἀπὸ Ἡρακλέους, μζ'* (47th) *ἀ[πὸ] Διοσκούρων*, who was also *ἀρχιερεὺς τῶν Σεβαστῶν* and holder of numerous other priesthoods. It is safe to assume that if we can identify his paternal grandfather we shall find our needed 45th descendant and, if possible, some trustworthy clue to his date. In any case there cannot have been direct descent from the family of Eurykles to that of Onasikrates and Eudamos, and probably there was no close connection between the two, since Eurykles is 36th in descent from the Dioscuri and Eudamos is 47th; obviously Eudamos cannot be dated eleven generations, say 350 years, later than the lifetime of Eurykles, as this would bring him down to *ca.* 450–480 A.D. It is clear from other examples to which I shall draw attention later [3] that descent from the Dioscuri is of no value for the purpose of identifying contemporary generations of different families at Sparta. To return to the family which more closely interests us: Kolbe suggested that Eudamos was son of S. Pompeius Onasikrates, who paid for the erection of a statue to Gorgippos (Gorgippi *f.*), V. 1, 557, and was also his colleague as Agoranomos (V. 1, 129) [4]; as this list belongs to the reign of Commodus, or perhaps Severus, the son of Onasikrates must have been born *ca.* 190–200, *i.e.* at about the date of his father's tenure of the Agoranomate. This would imply that the grandfather of Eudamos flourished two generations earlier, say 130–180. This date is impossible, for the letter forms of our architrave cannot be placed so early, and other prosopographical indications are definitely against it. We must, however, take into account another member of the family, *Σ. Πομπήϊος Ὀνασικράτης*

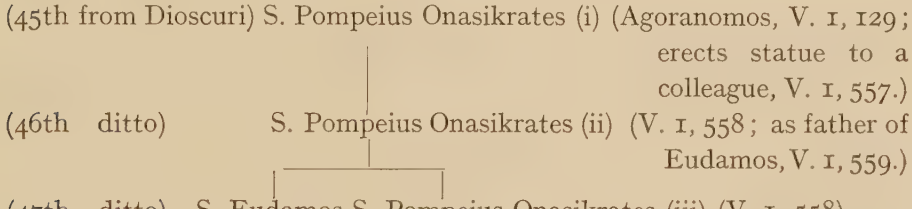
[1] This is proved by an inscription at Mantineia, *I.G.* V. 2, 281; see also Dittenberger's note on it in *Syll.*[3] 841. For Eurykles' descent see below, Appendix No. 1.

[2] *B.S.A.* xxvii. p. 206.

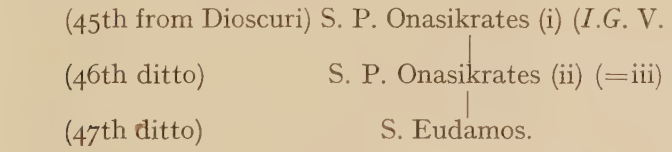
[3] Pp. 222 ff.

[4] See especially his note on V. 1, 89, in which Gorgippos appears again.

(〈), whose name is found on a fragmentary portrait-herm (V. 1, 558), unfortunately without his titles, whom Kolbe (*ad loc.*) identifies with the donor of V. 1, 557. This is, I am sure, a wrong identification, and it is much more likely that the subject of V. 1, 558 is son, or even grandson, of the Onasikrates of V. 1, 557 and 129. Between these alternatives it seems impossible to decide, but we may with some confidence conclude that if the Onasikrates of V. 1, 558 is son of the earlier one he is father of Eudamos, but if he is grandson, he is brother of Eudamos. The latter is perhaps the right solution, since the lettering on the two herms (V. 1, 558, 559) is very similar, as we might expect if two brothers were similarly honoured, whereas it has nothing in common with that in V. 1, 557, which is, *ex hypothesi*, two generations earlier. These relationships will be made more intelligible by the aid of the following table (I give the preferred alternative first):


(45th from Dioscuri) S. Pompeius Onasikrates (i) (Agoranomos, V. 1, 129; erects statue to a colleague, V. 1, 557.)
(46th ditto) S. Pompeius Onasikrates (ii) (V. 1, 558; as father of Eudamos, V. 1, 559.)
(47th ditto) S. Eudamos S. Pompeius Onasikrates (iii) (V. 1, 558).

The alternative version of the *stemma*, which I regard as less likely to be correct, would be this:



Kolbe's version would agree with the second, except that it would be Onasikrates (ii) to whom V. 1, 129 and 557 referred, with the consequence that the first bearer of the name would belong to the generation before Commodus, which I maintain to be impossibly early. In any case the result is the same as regards the name missing from our architrave, and we may, I think, restore it as *Σέξ.Πομπηΐου Ὀνασικράτους*; presumably it was preceded by *ἐπί*, and some noun or participle containing his office. The date implied would be *ca.* 190 at the earliest, and perhaps as the latest possible limit we might set 220, if we ascribed the inscription to his old age. At any rate we may regard it as quite out of the question that he

could have been alive and have recorded his name on the inscription of similar style, to be described next, which dates from the Tetrarchy (293, or later).

3. (Type 4.) The inscription on (*a* + *b*) cannot be restored in full with certainty, since we cannot be quite sure whether the text begins on (*a*), which reads [*Ἐπι*]*φανεστάτοις καὶ ἀνδ*[*ρειοτάτοις* - -], or if there are some inscribed blocks missing from the left of it. The former alternative is admittedly more likely, having regard to the shape of the block, with its mouldings returning along the left-hand end; moreover, it was found just outside the east end of the stage, very close, on this view, to its original position. In any case, we may restore the text on (*a* + *b*) to read [*Ἐπι*]*φανεστάτοις καὶ ἀνδ*[*ρειοτάτοις Καίσαρσι M.* (or *Γα.*?) *Φλ. Οὐαλερίῳ Κωνσταντίῳ καὶ Γα. Γαλ*]*ερίῳ Οὐαλερίῳ Μαξιμιανῷ* - -. If there are, after all, more blocks lost from the beginning, they must have contained the names of the Emperors Diocletian and Maximian. The date, on either supposition, will fall between March 1st, 293 and May 1st, 305.[1]

The titular epithet *ἐπιφανέστατος*, which usually stands alone, is employed at this epoch to designate the Caesar(s) in contrast with the Emperor(s).[2] On the other hand, *ἀνδρειότατος* appears to be almost as rare an epithet for them as the other is common.[3] This inscription, whether it represents a complete new architrave, or, as I have suggested above, a repair to an existing one which bore the name of Onasikrates (just described as No. 2), may well relate to restoration undertaken finally after the destructive raid by the Heruli in the year 267.[4]

4. (Type 5.) To be distinguished from the above, as the letters are smaller and the frieze-profile is different.

Ἐπι - - . This may possibly belong to No. 5. Whether it is the

[1] Cf. *B.S.A.* xxvii. p. 205, and note 2.

[2] I was clearly wrong in suggesting in a previous report (*B.S.A.* xxvii. p. 205) that these epithets could have been applied equally to the reigning Emperors (Diocletian and Maximian) as well as the Caesars. For *ἐπιφανέστατος* as almost a *sollemne epitheton* of the Caesar(s) see the chronological list of imperial titles in Preisigke, *Wörterbuch*, III. *Abschn.* 2, and cf. *Abschn.* 9, *s.v.* It appears to be given first to Valerian the younger, and becomes a normal epithet before the end of the third century; and is in use frequently, if not habitually, throughout the fourth. It is applied to Honorius as Caesar in *O.G.I.* 723 (= Dessau, *I.L.S.* 8809). For an altogether exceptional usage, in reference to Hadrian, as Emperor, see *P. Berlin*, 19, 1, 21.

[3] Maximinus appears as *ἀνδρειότατος Καῖσαρ* in *P. Oxyr.* 1318; Galerius as *ἐπιφανέστατος καὶ ἀνδρειότατος*, at Gortyn, *I.G. Rom.* i. 973 (= 1512).

[4] Cf. *B.S.A.* xxvii. p. 208.

beginning of some complimentary epithet, *e.g.* *ἐπιφανέστατος*, or merely the preposition, perhaps introducing the date or the name of the responsible official concerned with the work, cannot of course be decided.

5. (Fig. 21, 16.) - - *καὶ Φλ. Ὀνορί[ῳ* - -]. Probably from a dedication to Valentinian II., Theodosius, Arcadius and Honorius, and therefore to be dated 384–394.[1] The alternative, that it should be ascribed to the joint Emperors Arcadius and Honorius, and consequently dated 395–408, seems much less likely, for this would imply that restorations were undertaken after the Gothic invasion under Alaric, to oppose which the Theatre was, it seems, incorporated into a portion of the fortress then built. It seems much more reasonable to connect this inscription with the completion of some repairs or restoration carried out after the disastrous earthquake in the reign of Valens (375 A.D.), to which another inscription from the site (*B.S.A.* xxvii. p. 245, No. 35)[2] also seems to refer. (For the rough breathing over the first *omikron* see below, p. 219, note 1.)

6. (Fig. 22, 2.) One block, incomplete on the left, but otherwise undamaged, from an Ionic architrave, with heavy moulding above. (Cf. p. 188, No. 14.)

[- - - *Δεξι*]*μάχου υἱόν, ἔκγονον*
[- - - - - *λ*]*θ′ ἀπὸ Διοσκούρων.*

The lettering seems to indicate a date not later than the mid second century of our era, and it would be equally appropriate to the first; and thus justifies the restoration [*λ*]*θ′* (39th) in l. 2. The name to be restored in l. 1. is presumably that of one of the family of the Memmii, to which belong P. Memmius Spartiatikos (40th from the Dioscuri),[3] and P. Memmius Deximachos (42nd in the same descent).[4] Since, moreover, the latter is son of Pratolaos, it seems probable that these two names were used in alternate generations over a long period, and that we may legitimately restore Pratolaos as the name of the son of Deximachos in this inscription. He would thus be great-grandfather of the Deximachos, son of Pratolaos, who was 42nd in descent from the Dioscuri, and apparently held office as Eponymos shortly before 150 A.D.[5]; his father, P. M. Pratolaos was Eponymos in the reign of Trajan,[6] and was himself son of P. M. Deximachos (who must have been 40th in descent) and brother of P. M.

[1] Cf. *B.S.A.* xxvii. p. 206. For a still later inscription with the names of Theodosius, Arcadius and Honorius, from Megara (dated to 401/2 A.D.) see *Syll.*[3] 908.

[2] Cf. *op. cit.* p. 208. [3] *I.G.* V. 1, 571. [4] *Ibid.* 537.

[5] *B.S.A.* xxvi. p. 166 f., 1, B9, l. 6. [6] *I.G.* V. 1, 32B, l. 10; 101, l. 3.

Sidektas, Eponymos *ca.* 125 A.D.[1] As these two brothers held office in the first quarter of the second century, the date for their grandfather, the subject of our present inscription, may be put 60–70 years earlier, as regards his public career, say 40–60 A.D. and his birth thirty or forty years earlier. So far, our suggestions agree with the relationships worked out in Kolbe's *stemma* of the Memmii (*I.G.* V. 1, p. 117),[2] and our Pratolaos, 39th from the Dioscuri, will be identical with his Pratolaos (I). A further clue of real value for his date is afforded by inscriptions from Epidaurus, from which we learn (1) that he married Pasichareia, daughter of Statilius Timokrates, whose other kinships do not concern us; and (2) that he was already married by *ca.* 41 A.D. In, or about, that year his wife's brother T. Statilius Lamprias (II) died, at the age of ten, and in a copy of the Spartan decree of condolence, preserved at Epidaurus,[3] is recorded the resolution that an expression of sympathy is to be tendered verbally to Pratolaos, husband of Pasichareia, shewing that he was already married at that date; thus the year of his birth cannot be later than 20 A.D. and may be ten or twenty years earlier.

For the restoration of our text I assume that Pratolaos has the Roman *praenomen* and *nomen* of Publius Memmius, which it is reasonably certain that this family obtained, when receiving their Roman citizenship, from the name of P. Memmius Regulus, governor of Achaia in 35–36 A.D.[4] We may now proceed to complete the inscription as follows :—

[*Πό. Μέμμ. Πρατόλαον Δεξι*]*μάχου υἱόν, ἔκγονον*
[*Περσέως καὶ Ἡρακλέους, λ*]*θ′ ἀπὸ Διοσκούρων.*

It is worth noting that another Spartan family also claimed descent from Perseus and Herakles, namely the Volusseni, though not always from the Dioscuri as well; and it is not unlikely that a marriage, uniting their family to the Memmii, perhaps that of the father of our Deximachos, had thus united the two lines of Heroic descent. We know, moreover, that these two families again intermarried later, on two occasions at least, for L. Volussenus Damares (I) married a Memmia Damokrateia,[5] and P. Memmius Sidektas married Volussena Olympis, daughter of the same Damares.[6]

[1] *I.G.* V. 1, 32A, l. 3 f.; *B.S.A.* xxvi., *l.c.* 1, B9, l. 1.
[2] Repeated in part, with some amplifications, in *I.G.* IV. 1², p. xxxi.
[3] *I.G.* IV. 1², 86. [4] *Ibid.* 80, 665. [5] *I.G.* V. 1, 581.
[6] *Ibid.* 470; cf. *stemma* on p. 117, and *B.S.A.* xxvi. p. 205.

Some further notes on descendants of Herakles and the Dioscuri are put together below, in the Appendix (pp. 222 ff.)

7. (Fig. 22, 1.) *Πολυδάμας Φοιβίδα ἱερ[εὺς - -]*.

The inscription must have been continued on to the adjoining block on the right: there is a vacant space ·20 m. long on the left, where, moreover, the stone is broken. The letters are shallow and rather uneven, and perhaps belong to the first century B.C. The Polydamas here commemorated is not known elsewhere; he was perhaps priest of the Dioscuri. In any case, there is no reason to ascribe this architrave to the structure of the Theatre, and, since it was found in a late wall above the stage, it may well have been brought from elsewhere in Byzantine times.

(B) Inscriptions on Cornices.

8. Type (2), cf. p. 191. As there is great uncertainty as to the order in which these fragments should be arranged, I transcribe them according to the way they are placed on the illustration (Fig. 21, 1–12).

1. [- - *κατὰ πρό*]*σταγμα δὲ* - -.

For *πρόσταγμα* cf. the inscription which presumably refers to the repairs recorded on this cornice, *B.S.A.* xxvi. pp. 225 ff., No. 20 (*a*) l. 1.

2. - - *ωθεντ* - -.

This is on the whole more likely to belong to some aorist passive participle of a verb in *-οω* or *-ωνω* than to an adverb or preposition such as [*ἄν*]*ωθεν* or [*ἔξ*]*ωθεν*, followed by *τ* - -. And as the verb may well refer to the damaged condition prior to repairs undertaken, I would suggest, with some hesitation, [*ἐρημ*]*ωθεντ* - -.[1] The following fragment is perhaps to be combined with this.

3. - - *ς τοῦ πετάσου παν*[*τὸς* - -]. The *πέτασος* here is probably not, as I originally suggested,[2] the roof of the stage-buildings, but the awning over the Orchestra and front seats. The same word is found in three inscriptions from the Theatre at Ephesus relating to the construction and repairs of this awning,[3] and in one text from Philadelphia.[4] The first letter on this block was apparently ϵ or ϲ, written across the joint between it and the adjoining block. It is tempting to combine *2* and *3*, but *2* cannot come

[1] This is not, by itself, suitable to a damaged building, and certainly not to its *πέτασος*; it may have followed some other participle, *e.g.* from *διαφορεῖσθαι*, *καταστρέφεσθαι*, or *συμπίπτειν*. No more likely verb, ending in *-οω* or *-ωνω*, occurs to me.

[2] *B.S.A.* xxvi. p. 228 f.

[3] *Forschungen in Ephesos*, ii. pp. 162 ff., 39, l. 4; 40, l. 6 f.; 41, l. 2 f.

[4] *C.I.G.* 3422, l. 17 (= *I.G. Rom.* iv. 1632).

on the left, since there is a vacant space between the Τ and the edge of the block; it would, however, be possible to read - - ς τοῦ πετάσου παν[τὸς *e.g.* διαφορηθέντος καὶ ἐρημ]ωθέντ[ος - -.]. The first letter on 3 is puzzling, and, if *epsilon*, is hard to explain, for the natural restoration is τε, but if some other detail of the building was coupled with the πέτασος,

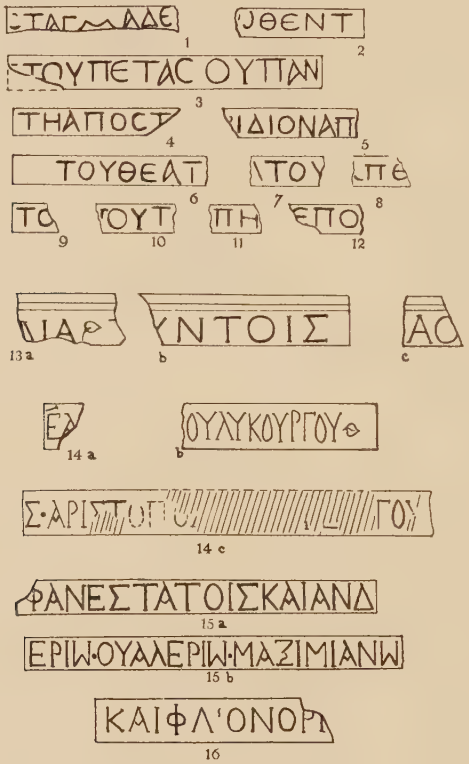


FIG. 21.—INSCRIPTIONS ON CORNICE-BLOCKS (1–13), AND ON ARCHITRAVE-AND-FRIEZE BLOCKS (14–16).

τε should come after the word τοῦ. In the circumstances I prefer to read C, and to suppose that an allusion was made to the στοά as well, for we find it mentioned in the fragmentary companion-document (*B.S.A.* xxvi. p. 230, No. 21), and that the *sigma* is from the end of the word [στοᾶ]ς, the phrase being [μετὰ τῆς στοᾶ]ς τοῦ πετάσου παν[τός].

4. τη ἀποστ - -. As ἀποστολή seems unlikely, perhaps this is from the participle (aorist passive) of ἀποστέλλω, in agreement with some noun

in the dative, such as διατάξει or διατυπώσει, to balance κατὰ πρόσταγμα δὲ - in *1*. We might thus restore [τῇ μὲν διατάξει] τῇ ἀποστ[αλείσῃ - -].

5. ἴδιον ἀπο - -. Perhaps an epithet in agreement with πρόσταγμα in *1*, followed by a participle, such as ἀποδοθέν. The breathing-like sign over the first *iota* is to be noted.[1]

6. Τοῦ θεάτρου - -. The vacant space to the left of the first word and the unusual shape of this block, with the mouldings returning along the left-hand side, indicate that this was in all probability the beginning of the whole inscription.[2] We cannot tell whether it is a genitive absolute, or a possessive genitive; if the latter, probably dependent on τοῦ πετάσου.

7. - - ạτου - -.

8. - - μπε - -. The remains of the first letter seem better suited to Μ than to Ε or C, and μπε can hardly be explained except as part of the name Ἀμπέλιος; so I would place *7* and *8* close together and restore [ἀνθυπ]ά̣τοῦ [Πουβλ. Ἀ]μ̣πε[λίου - -].

9, *10*, *11*, *12*. Four small fragments, of which Nos. *9* and *11* are on blocks which have returns on the left; the latter preserves also a corner of a roof-coffer. As the lettering seems slightly smaller, though otherwise similar in style, *9* and *11* should perhaps not be incorporated in our inscription; they may have belonged to a contemporary inscription on an upper Order, of which we have no other inscribed fragments preserved.

9. τ̣ο. *10*. -π̣ου τ - -. *11*. πη - -. *12*. ε̣πο - -.

For *12* ἐ̣πο[ιήθη(?)] seems likely, as we should expect to find a verb descriptive of the work of repair, and the passive is consistent with the fact that we have no indication of a name as subject for an active verb. I have nothing to suggest for *10*, except [λοι]πο̣ῦ τ - -, which might perhaps be contrasted with τοῦ πετάσου παν[τός] in *3*.

It is plain that where so much is lost, and so many of the surviving words are obscure, any attempt to reconstruct the inscription as a whole must be speculative. Nevertheless, the following restoration is offered as an attempt to combine the existing fragments (except *9* and *11*) in the light of the foregoing suggestions.

[1] Note also the rough breathing over the first *omikron* in the name of Honorius, on No. 5. For these signs see Larfeld, *Gr. Epigraphik* (I. von Müller, *Handbuch*, I. 5, 1914), p. 301 f., and Wilhelm, *Beiträge*, pp. 160 f., 312.

[2] The finding-place, near the E. end of the stage confirms this view (*v. supra*, p. 191).

Τοῦ θεάτ[ρου μετὰ τῆς στοᾶ]ς τοῦ πετάσου παν[τὸς καὶ τοῦ λοι]πο̣ῦ τ - - διαφορηθέντων καὶ ἐρημ]ωθέντ[ων, τῇ μὲν διατάξει] τῇ ἀποστ[αλείσῃ ἀπὸ - - - -, κατὰ πρό]σταγμα δὲ ἴδιον ἀπ[οδοθὲν ὑπὸ τοῦ λαμπρ. ἀνθυπ]άτου [Πουβλ. Ἀ]μπε̣[λίου], ἐ̣πο[ιήθη ἡ στοὰ καὶ ἐπεσκευάσθη ὁ πέτασος.]

In any case, the wording differs so completely from the normal type of such inscriptions commemorating restorations that no analogies can help us. We may contrast the simplicity of the second of the texts referred to above from Ephesus: (ὁ δεῖνα) *τὸν πέτασον τοῦ θεάτρου διαφορηθέντα - - ἐπεσκεύασεν.*

9. (Type 3.) (a) - - λι̣α̣ (leaf ornament) β̣ - -.
(b) [- - σ]ὺν τοῖς - -.
(c) - - αο - -.

Nothing can be made of these fragments. The first letter of (a) might be either Δ or Λ; if the former, perhaps δ̣ι̣ὰ β̣[ίου], since the last letter could only have been Β or Τ. (The leaf-ornament forbids us to restore [Ἀ]δ̣ι̣α̣β̣[ηνικός], as a title of Serverus or Caracalla.) If the latter, perhaps the end of a name - - λ̣ί̣α̣. For (b), *σὺν τοῖς*, probably in reference to architectural elements, for which usage we need not multiply parallels.[1] (c) is hopeless.

(C) Miscellaneous, and Masons' Marks.

10. On the abacus of a late Doric capital, perhaps re-used.[2] Ht. ·073 m.; br. ·27 m.; depth ·25 m. Letters *ca.* ·03 m.

Ἀλεξάν[δρου.]

The presence of the wreath and palm indicates that this is perhaps from a dedication by, or a small statue to, an athletic victor. The lettering points to a late date, scarcely before 200 A.D., and perhaps considerably later.

11. On the plain fascia above a moulded console-block. Ht. ·215 m.; br. ·42 m.; depth ·46 m., above, ·36 m. below. Letters *ca.* ·03 m., not deeply cut.

Ἀλεξάνδρου.

It is quite uncertain if there is any connection between this and the previous inscription. The lettering might well be contemporary with it.

[1] *E.g. τὴν οτοὰν σύν ταῖς ἐν αὐτῇ ἐξέδραις* erected by C. Julius Eurykles Herklanos at Mantineia, *I.G.* V. 2, 281.

[2] No. *e* in my list above, p. 162.

12. On a small rectangular stele of Laconian marble. Ht. ·44 m.; br. ·135 m.; th. ·06 m. Letters *ca.* ·04 m.

FIG. 22.—MISCELLANEOUS INSCRIBED BLOCKS.

Βουλῆς.

This stele perhaps denoted the position of the seats in the *cavea* reserved for members of the Boule. No sinking of the requisite dimensions came to light in the portion of the *cavea* which we excavated.

13. (a–j). The following masons' marks were noted on various architectural marbles, mostly described in the foregoing list. Their number seems curiously small, considering the large quantity of marbles found.

(a) On upper surface of a Corinthian capital (type 7), with lower diameter of ·33 m.: Α.

(b) On under surface of Ionic capital, of unusual type (not described), with lower diam. of ·405 m.: Ε.

(c) On side of abacus, near the angle, of capital of Western type (type 8): Π (intended for Ε?).

(d) On upper surface of column-base with cylindrical pedestal, diam. of upper Torus. 47 m.: Ζ.

(e) Ditto, on column-base without plinth, diam. ·45 m.: Η.

(f) On top of broken column-shaft, unfluted, of white marble, found in the Nymphaeum (type 4): Η.

(g) On the side of an unfluted column, near the base; diam. ·38 m.: ΦΑ.

(h) On a broken column-base with moulded pedestal (Fig. 5, 1): VIII.

(j) On the side of a fragment of abacus, broken from a capital (unidentified type): VIII.

It is possible, but cannot be verified, that the last two items on the list should be ascribed to the same structure in view of the duplication of the mark VIII. On the other hand the two marked Η can scarcely belong together, as the column is too small to belong to the base. It could, however, belong to the same structure as the capital marked Α or Ε, as its upper diameter is ·35 m.; and this would imply that it comprised at least eight columns, as there is little doubt that all these letters have numerical values, with the exception of (g). The last-named might be similarly explained if the Φ were an abbreviation, and Α had the value of 1. The use of the Roman numerals on (h) and (j) seems to point to Latin-speaking masons or foremen.

Appendix to § 6.

The Descendants of Herakles and the Dioscuri.

As our architectural inscriptions include two interesting additions to the list of Spartans who claimed descent from Herakles, or the Dioscuri, or both, it seems worth while to group all the texts of this class together, in order to examine briefly the chronological relationship of the persons and families who claimed such ancestry.

(1) '36th from the Dioscuri': *Γά. Ἰούλιος Εὐρυκλῆς Ἡρκλανός*, *I.G.* V. 1, 971, 1172 (cf. V. 1, 380, from Cythera, for a fuller version of his

name). Eponymos at Sparta *ca.* 126 A.D., and died not later than 135 (cf. *I.G.* V. 2, 281; *B.S.A.* xxvi. p. 207, No. 5). No earlier members of his family record this descent, with the single exception of his grandfather, if Kolbe's restoration of the name, lost from *I.G.* V. 1, 463, as *Σπαρτιατικός* is correct.[1] We can trace no descendants of Eurykles in the male line who claim this descent.[2]

(2) '39th from the Dioscuri, descendant of Herakles and Perseus': *[Πό. Μέμμιος Πρατόλαος Δεξι]μάχου*, on the architrave-block described above, No. 6. Born *ca.* 10 A.D. at latest. For his great-grandson see No. 5, below.

(3) (At Gytheion.) '41st from Herakles, 39th from the Dioscuri': *Λ. Μίνδιος Δαμοκράτης*, and his sister *Πεδουκαία Μαρυλλῖνα*, V. 1, 1174. Date, *ca.* 150 A.D.[3] We cannot tell if they had any connection with any of the Spartan families claiming similar descent. It is to be noted that here the Dioscuri are reckoned as two generations later than Herakles, but in No. 6 as four generations.

(4) '40th from the Dioscuri, descendant of Herakles and Rhadamanthus': *Πό. Μέμμιος Σπαρτιατικός*, *I.G.* V. 1, 471. Unfortunately, we do not know the name of his father, so cannot trace his relationship to the other Memmii (Nos. 2 and 5 in this list). It is probable that he is not identical with, but grandfather of, the Eponymos of *ca.* 150 A.D. (V. 1, 71, iii. ll. 1, 2, and *ibid.*, 85), and possibly, as the date fits well enough, he may have been father of P. Memmius Lakon (*B.S.A.* xxvi. p. 201, 2(γ)) who was Nomophylax in the year of Aphthonetos, *ca.* 132 A.D.[4]

(5) '42nd from the Dioscuri': *Πό. Μέμμιος Δεξίμαχος Πρατολάου*, V. 1, 537. This Deximachos is probably the man whose tenure of the post of Eponymos is recorded in an inscription on the E. Parodos-wall of the

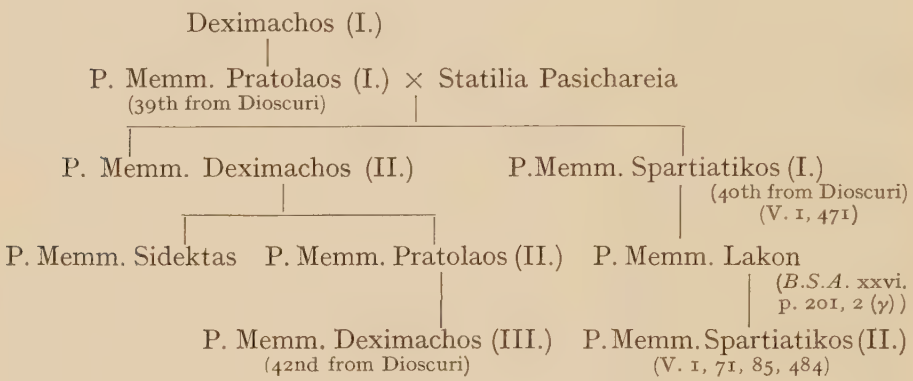
[1] Cf. his full *stemma* of the Euryklids, V. 1, p. 307.

[2] In V. 1, 288, from the Orthia Sanctuary, we find a Julius Eurykles, belonging to a later generation, who was victor there as a boy *ca.* 134 A.D. (see my restoration of the name in *The Sanctuary of Artemis Orthia*, p. 231, No. 45) and *συνέφηβος* to another victor in the same year (V. 1, 287, = *op. cit.* No. 44). He may possibly have been a grandson of Eurykles Herklanos, but there is no convincing reason for postulating any connection between them.

[3] I follow Kolbe's dating, though it is to be noted that the consul M. Peducaeus Stloga Priscinus, from whose *nomen* the lady's name is derived (originally by Le Bas, *Rev. Arch.* ii. 1845, p. 211; *Voyage*, ii. 245) was not the first consul of this *nomen*. Thus she or a parent of hers may have derived it from Peducaeus Saenianus, *cos.* 89, or Peducaeus Priscinus, *cos.* 110.

[4] This alternation of the names Lakon and Spartiatikos, if my suggestion is correct, seems to point to some connection, at an earlier stage, and perhaps through the female line, with the family of the Euryklids.

Theatre, namely *B.S.A.* xxvi. p. 166 f., 1, B9; and his date in that capacity seems to fall between 140 and 150 A.D. He is thus a near contemporary of P. Memmius Spartiatikos (II.), who, as I suggest above, is grandson of, and not identical with, the Spartiatikos who was 40th from the Dioscuri (No. 4, above). This at least avoids the difficulty of assuming that two kinsmen of the family of the Memmii, one 40th in descent and the other 42nd, were close contemporaries. We cannot trace the relationship of the elder Spartiatikos to Pratolaos, the subject of No. 4, above, but there is no obstacle to the assumption that he was his son, and on this view I submit a revised version of part of Kolbe's *stemma* of the Memmii (V. 1, p. 117).



(6) '46th from Herakles': - - - *αρχίδα*, V. 1, 61, l. 4. This name, which is that of one of the Ephors in the year of Aphthonetos, I would restore as [*Γά. Ἰούλιος Δαμαίνετος Ξεν*]*αρχίδα*, who is found also in V. 1, 167, l. 6 f.; and we may, I think, confidently recognise his grandson as the subject of No. 7.

(7) '48th from Herakles, 44th from the Dioscuri': *M. Αὐρήλιος Ἀριστοκράτης Δαμαινέτου*, V. 1, 529, 530. Kolbe is certainly right, in his note on V. 1, 531, in deriving the Roman names of Aristokrates from M. Aurelius or Commodus, and not from Caracalla; and in thus dating his activities to the latter part of the second century, which fits well with his grandfather's tenure of the Ephorate under Hadrian.

(8) '45th from the Dioscuri': [*Σέξ. Ποmπήϊος Ὀνασικράτης*], whose name I restore on the architrave No. 2, above, suggesting that his date might be *ca.* 190 at the earliest, and perhaps even thirty years later. This would make him approximately a generation later than Aristokrates

(No. 7), and thus again satisfies our chronological requirements, though we cannot tell if there was any connection between his family and that of the Memmii or of the Damainetoi.

(9) '(?) from Herakles, 47th from the Dioscuri': *Σέξ. Εὔδαμος Ονασικράτους*, V. 1, 559. The missing figure before *ἀπὸ Ἡρακλέους* is restored by Kolbe as [*μ'*.], but it seems at least as likely that it should be [*να'*], 51st, as 4(9)th, seeing that Aristokrates, in No. 7, above, treats the Dioscuri as being four generations later than Herakles; on the other hand, in the inscription from Gytheion, No. 3, above, only two generations are held to separate them.

The conclusions to be drawn from our study of these texts are not very decisive, but we seem justified in claiming that, omitting Nos. 1 and 3, approximately a generation of 25–30 years only separates the successive claimants of descent from the Dioscuri from P. Memmius Pratolaos (I.), Deximachi f., born *ca.* 10 A.D., down to Sextus Eudamos, whose *floruit* was *ca.* 260 A.D. This does not imply that there was any connection, in the period covered by these inscriptions, between the different families which claimed such descent, for they may have branched off, or believed that they branched off, from each other at a much earlier stage. On the other hand, the particulars obtained regarding the Memmii point to a close connection between the members of this clan.

The exceptional instances, namely those of Eurykles Herklanos, who, as 36th from the Dioscuri, was contemporary with the 41st descendant among the Memmii, and Mindius Damokrates of Gytheion, who as 39th descendant was contemporary with the 42nd among the Memmii, and thus a century later than P. Memmius Pratolaos (I.) who was 39th in descent in that family, cannot be reconciled either with each other or with any other of the Spartan genealogies. We must leave the problem unsolved, with the suggestion that, whilst it is not surprising that the average length of a generation should not exactly coincide in two unrelated families, our difficulties are perhaps due in part to the untrustworthy imaginations of rival genealogists, from which the study of pedigrees seems to have been seldom exempt at any stage of human history.

§ 7. *The Stamped Bricks and Tiles.*

(i) *The Bricks.*

The excavations of 1924–27 yielded a large number of stamped bricks and tiles which deserve publication.[1] The bricks were almost all found at the site of the Theatre or in its immediate vicinity, as was to be expected from the fact that most of them were made, as their stamps tell us, expressly for the *Σκηνοθήκη*. The majority of the tiles came from the Acropolis, and though the Theatre also yielded interesting examples it is not certain that any of those found there originally belonged to it. This point will be dealt with below in discussing the tiles.

The brick-stamps found in the original excavations at the Theatre in 1906, and published by Tillyard in the *Annual*,[2] numbered less than a hundred in all, even when we include a few fragments omitted from his article as being too illegible or too small for identification. Since the more recent finds number roughly speaking 400 and include a considerable proportion of complete bricks, especially from the Nymphaeum, which seems to have been largely built of re-used *Σκηνοθήκη* bricks, it is not surprising that new types have been recognised and corrected readings obtained for some of the stamps of which Tillyard had only incomplete examples to deal with. I have accordingly decided to make a new classification of the whole series, as follows :—

A. *Single-line Stamps.*

Type I. Inscribed retrograde, on oblong bricks usually measuring ·33 × ·165 × ·05 m.

On long sides { *Ἐπὶ Καλλικράτεος* / Contractor's Name

On ends . . { *Δαμοσίαι* / *Σκανοθήκας*.[3]

[1] I am indebted to Messrs. R. P. Austin, H. Box and W. L. Cuttle for their careful copies in the Inventory of Stamped Bricks kept during the excavations, and to Miss G. Parkin for her patient help in the sorting and classification of those found at the Nymphaeum in 1927.

[2] *B.S.A.* xiii. pp. 191–196.

[3] All the types here published (I. II. IV. V.) which comprise properly a different stamp for each of the four edges of the brick, are apt to show variations in the placing of the stamps, as well as duplications and omissions. These are not taken into account where the type is recognisable.

The following names of contractors are found: (α) *Ἐρ. Ἐυάμερος.* (β) *Ἐρ. Ζήνων* (or *Ζήνων* alone). (γ) *Ἐρ. Κέρδων·* (δ) *Ἐρ. Κλέων.* (β = Tillyard, *op. cit.*, Type 2, *I.G.* V. 1, 878; δ = Tillyard, Type 1, *I.G.* V. 1, 879.) The numbers found are as follows :—

	Numbers found		Total
	In 1906	In 1924–27	
Contractor (α) . .	1	10	= 11
,, (β) . .	2	31	= 33
,, (γ) . .	1	6	= 7
,, (δ) . .	5	32	= 37
	9	79	88

In addition to these, 53 fragments found in 1906 and over 180 found in 1924–27 lacked the contractor's name, or preserved too little of it to allow of identification. Thus more than 300 examples of Type I were found in all.

Type II. (Fig. 23, 1, 2.) (Cf. Tillyard, Types 5 and 6.)

This is more problematical. Tillyard supposed, on the evidence of a few fragments, that there were two single-line types to be distinguished, of which he read Type 5 (= *I.G.* V. 1, 877) as

On long sides { *Δαμοσίαι* / *Καλλικράτης*

On ends . . { *Σκανοθήκας* / *Ἑρμογένης* (with *rho* written ɗ).

His Type 6 (= *I.G.* V, 1, 856) he read as

On long sides { *Καλλικράτης* / *Ἀθάνας*

On ends . . { *Σκανοθήκας* / *Δαμοσία.*[1]

For these two types he had only nine incomplete examples, six of the former and three of the latter. To these we may now add, from

[1] This presumed type has the further peculiarity, which would distinguish it from other brick-stamps, of having no contractor's name.

the recent excavations, twenty-two more, all on incomplete bricks: three others which might belong are too much damaged to be taken into account.

From the new finds it appears that Tillyard has, in all probability, made two types out of one. In the first place none of the 31 examples gives us the word *σκανοθήκας* in a complete form, and the four which begin ΣΚ or ΣΚΑΝ are susceptible of a quite different interpretation, as will be shewn below. In the second place his reading *'Αθάνας* in Type 6 rests on three examples, two of which have ΑΝΑΣ only and in the third the first two letters of *'Αθάνας* are marked as doubtful. In the newer finds we have no example of *'Αθάνας*, nor any beginning with *'Αθ-* or *'Αθα-*, but we have,

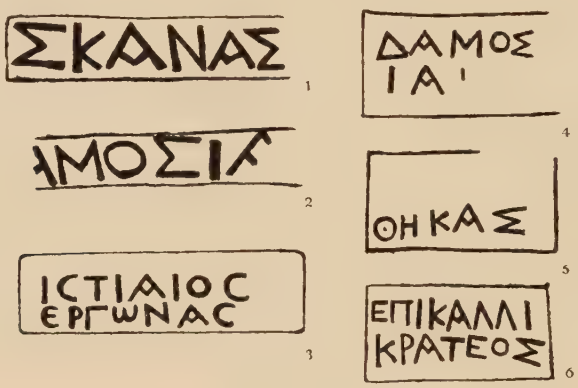


FIG. 23.—BRICK-STAMPS FROM THE THEATRE.

on the other hand, three undoubted examples of ΣΚΑΝΑΣ (cf. Fig. 23, 1), three more with the beginning only, and two more with *-ανας* and *-νας* respectively. All these exhibit the same style of lettering and are almost certainly from the same stamp. In the third place *'Αθάνας* would be unique on a brick-stamp, for none of our other Spartan types contains the name, and it would be unwise to assume that bricks as well as tiles were made at the '*'Αθάνα*' tile-works until we obtain an undoubted example of the word on a brick-stamp.[1]

These considerations justify us in rejecting *σκανοθήκας* and *'Αθάνας*

[1] For the '*'Αθάνα*' tile-works see Wace, *B.S.A.* xii. p. 347. Kolbe's alternative explanation, *I.G.* V. 1, p. 168, note on No. 887, does not carry conviction, and Hiller's (quoted by Kolbe, *ibid.*) seems most improbable.

alike from this group, and in concluding that we must substitute for Tillyard's Types 5 and 6 a single type reading thus:

On long sides { *Καλλικράτης* / *Δαμοσίαι*

On ends . . { *Ἑρμογένης* / *Σκανᾶς*.

Of this type there seem to be two varieties according as the *rho* in *Ἑρμογένης* is correctly set or is inverted and reversed (ɖ): with the former the name ends with ϵ, with the latter it ends in ϲ; and both *δαμοσίαι* and *δαμοσία* seem to occur as alternatives. Moreover, both square bricks (·35 × ·35 m.) and oblong (*ca.* ·33 × ·165 m.) of this type are found.

B. *Stamps with two and three Lines.*

Type III. (= Tillyard, *op. cit.*, Type 4, *I.G.* V. 1, 881.)

Ἐπὶ Καλλικράτις· Φιλικός·
Δαμοσίαν σκανοθήκας.

All contained in one stamp, which might be impressed on more than one edge of the brick. Eleven examples were found in 1906 and upwards of 40 in 1924–27. There seem to be two varieties, according as the name *Καλλικράτις* (= *Καλλικράτεος*) ends with ϲ or ϵ; the former is more frequent.

Type IV. (Fig. 23, 4, 5, 6.) (= Tillyard, *op. cit.*, Type 7, *I.G.* V. 1, 916, for side (*d*) only.)

(*a*) *Δαμοσ-ίαν* (*b*) *Σκανο-θήκας*. (*c*) *Ἐπὶ Καλλι-κράτεος* (*d*) *Ἐργώνα Πρα-τίωνος*.

This seems to be the complete form of Tillyard's Type 7 which he reads as *Ἐργώνα Πρα | σίωνος*. Actually no brick was found with all four stamps on it, but the following combinations were found which point to this conclusion: one example (No. 6289) has *a* + *b* + *c*; two others (Nos. 6136 and 6238) have *a* + *d*, and another (No. 6108) is stamped with *a* twice + *d* once. In any case, as the two which have *b* differ in dimensions, one (No. 6289) measuring ·305 × ·305 m. and the other (No. 6106, with *b* alone) ·305 × ·165 m., and No. 6108 measures ·29 × ·15 m., there may well have been frequent irregularities in stamping as well as in size. There seems, however, to be no alternative possible to the combination here proposed,

for which the similarity in the size of the stamps, and above all in the letter-forms, supplies very strong evidence. It must be noted that there seem to be two variants for *d*, one with ω and the other with Ω in the word *ἐργώνα*, and it is not quite clear whether the maker's name is *Πρατίων* or *Πρασίων*. Tillyard read the latter (on No. 2119 *a*) and on No. 6198 ϵ seems to be the reading of the fourth letter, but on five others (Nos. 6108, 6118, 6135, 6136, 6238) *Πρατίωνος* is quite clear. As it seems most improbable that there were both a *Πρασίων* and a *Πρατίων* making bricks of this type in the same year, I am inclined to reject *Πρασίωνος* unless an absolutely certain example of his name can be found.

Type V. This type can be reconstructed with the following four stamps (cf. Fig. 23, 3).

(*a*) *Δαμοσίαι* (*b*) *Σκανοθήκας* (*c*) *Πατρονόμω Καλλικράτεος* (*d*) *Ἱστιαῖος ἐργώνας.*

The combinations on which it is based, for we have no brick with all four stamps, are the following: No. 6133 (*a* + *b* + *c*); No. 6221 (*a* + *b* + *c*(?)) : No. 6072 (*a* + *c* + *d*) : No. 6146 (*a* + *d*); No. 6084 has *c* only, and Nos. 6059 and 6287 have *d* only. All these were found in 1924–27, but one or two fragments from 1906 seem to give us *b* (*e.g.* No. 2120). The contractor Histiaios is not found on any other brick-stamp, nor as a maker of tiles.

Type VI. This is the three-line stamp, sometimes found repeated on more than one edge of the brick, of which the existence was known before the excavations of 1906 began. (*S.M.C.* 535; Tillyard, *op. cit.*, Type 3; *I.G.* V. 1, 880).

Πλίνθοι δαμόσιοι σκανο-
θήκας· ἐπὶ Καλλικράτεος,
ἐργώνα Νικασίωνος.

Nine examples were found in 1906 and upwards of fifty more in 1924–27. There seem to be no variant forms for this stamp.

Type VII. This is a three-line stamp, represented by six fragments only, none of which gives us the central portion or the contractor's name.

ΔΑΜ ////////// ΑΝΟΘΗ = *Δαμ[οσίαι σκ]ανοθή-*
ΚΑϹΕΠΙ ////////// ΚΡΑΤϵ *κας·ἐπὶ [Καλλι]κράτε-*
ΟϹϵΡΓΩ ////////// *ος ἐργώ[να - - - -.]*

The style of lettering resembles Type VI, and it is possible that it is another version of the same contractor's stamp, but this does not justify us in restoring *Νικασίωνος* in l. 3, especially as there scarcely seems room for so long a name.

From the above classification certain facts of interest emerge. We can now see that all seven types belong to the year of the Eponymos Kallikrates, that six of them were definitely on bricks for the *σκηνοθήκη*, the other being on those for the *σκηνή* itself, the stage-building, in contrast, we may suppose, with the 'scenery-store.' And we have the following contractors all supplying bricks in this year: *Ἑρμογένης* (for the stage only), *Εὐάμερος*, *Ζήνων*, *Ἰστιαῖος*, *Κέρδων*, *Κλέων*, *Νικασίων*, *Πρατίων* (also *Πρασίων*?), *Φιλικός*, and an unknown name (on Type VII). The retrograde stamps, Type I, are by far the commonest, and considerably outnumber, in the material here collected, all the others put together. The actual numbers of each type found have little or no importance, and finality could not be reached without, in the first place, working over all the examples, especially of Type I, in search of possible joins, and secondly, without a complete examination of all the bricks still forming the walls of the Nymphaeum. As the latter undertaking would involve pulling the building to pieces for the purpose, we had better be content with the conclusions now reached.

(ii) *The Stamped Tiles from the Theatre and the Acropolis.*

The stamped tiles described in this section comprise all those found in the School's excavations both in 1906 ff. and 1924–27 at the Theatre and on the Acropolis above it. In addition a few specimens are included which came from other parts of the high ground forming the Acropolis in its more extended sense, because they have some bearing on the other finds. The stamps from the Theatre are a strikingly miscellaneous lot, and, as we shall see, their variety suggests that most of them had reached the site by accident, for we have no certain indication from their contents that any originally belonged to the Theatre itself. There is, however, reason to suppose that one group (Type **65**), may have been made for a building adjacent to it. They consist of those found in excavating the Stage, the Orchestra, the Parodoi and the regions closely adjoining them, whereas a few specimens found in surface-earth in the *cavea* are regarded as belonging

to the Acropolis and treated accordingly. The total number from the Theatre is 44 (15 found in 1906, 1 in 1907, 5 in 1908 and 23 in 1924–27).

The total number from the Acropolis described here is 98 (54 found in 1907, 21 in 1908, 2 in 1909 and 21 in the excavations of 1924–27) and for more than one reason they are more interesting than the finds from the Theatre: first because many of them belong to buildings situated on the Acropolis, and secondly because we have evidence from stratification for a relative date for some of the principal types, namely those found in 1927 in the clay filling which is contemporary with the building of the Theatre; this filling cannot be earlier than the reign of Augustus nor later than the middle of the first century of our era.

Wace's articles in the *Annual* [1] take into account the principal types found in 1906 and 1907, but among those now described there are several new types not included in them; moreover, more complete copies have since been obtained for a few of his incomplete stamps, and lastly the termination of the excavations at the Theatre and on the Acropolis affords a good reason for finally taking stock of the finds as a whole.[2] The tile-stamps from these two regions are grouped together, but care is taken to indicate the finding-place of each example by use of the abbreviations *Acr.* and *Th.*

(i.) Examples of stamps published by Wace (*B.S.A.* xii. and xiii. *locc. citt.*; his Type-numbers are given in leaded type).

(*a*) City-Wall stamps.
Acr. 4: (**29** (2), **31**A (1), **31**B (1).)
Th. 7: (**2** (1), **8** (1), **10** (1), **28** (1), **31**A (1), **31**B (1), **32** (1).)

(*b*) *Δαμόσιος Ἀθάνας (vel sim.).*
Acr. 28: (**12** (2), **13** (9), **15** (1), **16**B (1), **17**A (1), **17**B (4), **17**C (3), **17**F (3), **17**G (1), **25** (2), **26** (1).)
Th. 18: (**12** (1), **13** (10), **17**A (1), **17** B(1), **17**C (1), **17**(?) (3), **25** (1).)

(*c*) *Παράθεσις* Types.
Acr. 27: (**40**A (2), **40**B (3), **40**C (3), **40**D (1), **40**E (6), **41**A (3), **41**B (2), **41**C (1), **41**D (1), **41**E (1), **41**F (1), **41**H (3).)

[1] *B.S.A.* xii. pp. 344–350; xiii. pp. 17–43.

[2] I regret that I was unable to go over the obscurer fragments in hopes of obtaining further clues to aid in their identification. If any of my suggestions are confirmed or condemned by subsequent study I shall be equally contented.

Th. 1: (**41**D (1).) This is a complete example, which enables us to correct Wace's restoration of the contractor's name in l. 3 from *Καλλικρατίδα* to *Καλλικράτεος* (cf. Fig. 25, 1), and consequently to make the same correction in all his five published varieties of type **41**.

(*d*) Types limited to the Chal- *Acr.* 17: (**43** (6), **44** (6), **45** (5).)
kioikos Sanctuary.

(*e*) Miscellaneous (*Κατάλυμα Acr.* 1: (**46**A (1).)
τῶν Ῥωμαίων καὶ δικαστᾶν).

(ii.) To these must be added the following fragments which seem to offer new varieties of published types:

(*a*) Type **9** (1). *Acr.* ///ΙΧΕ / /ΟΝ Perhaps. [*Δαμόσιος τε*]*ιχέ-*
[*ων ἐργώνα Δι*]*ον(υσίου).*

Type **30** (1). *Acr.* ΔΑΙ Perhaps *Δαμ*[*όσιος*]
τ[*ειχέων.*] (?)

Type **38** (1). *Acr.* ///ΟΣΤΕΙΧ / ΜΟΝΓΛ Perhaps [*Δαμόσι*]*ος τειχ-*
[*έων . . .*]*μον Πᾳ.*(?) Unintelligible.

(*b*) Type **17** (2). *Acr.* (*α*) ΔΑΜΟ⁻ / ΑΘΑΝΑ (*β*) ///ΜΟΣΙΟ / /// ΝΑ//

(*α*) *Δαμόσ*[*ιος*] | *Ἀθάνᾳ*[*ς.*] (*β*) [*Δα*]*μόσιο*[*ς* | *Ἀθά*]*να*[*ς.*]

The first of these is distinguished by its careless, splayed letters, the cross-bar of the *alpha* being particularly low down.

(*c*) Type **40** (1). *Acr.* //ΝΟΜΟ// [*Ἐπι Νικο*]*νόμο*[*υ* | *παραθέσεος*] (?), etc. Probably distinct from the varieties of **40** (A, B, D, E) which begin in this way.

It is worth recording that there are in all 34 specimens of *παράθεσις*-stamps (Types **40** and **41**) and that 27 of these come from the Acropolis: the distribution of the others is interesting because a complete tile with **40** B came from the extreme S. end of the city (near the Polytechnic school beside the road to Gytheion), four from the line of the walls to the north of the city, and one each from the Theatre (**41**D) and the Round Building near the east end of the Acropolis. This distribution seems to confirm Wace's

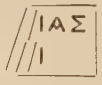
explanation of the meaning of *παράθεσις* (*B.S.A.* xiii. pp. 33 ff.), criticised by Kolbe, *I.G.* V. 1, p. 166, who prefers to regard the *παράθεσις* as a building.

(iii.) New Types.

Type **65**A. ΚΝΑΓΕΙΑΣ / ΙΕΡΟΙ *Κναγείας | ἱεροί.*

Type **65**B. (Fig. 25, 2.) *[Ἱ]ερο͡ὶ | Κναγεία[ς.]*

65A. *Acr.* (2), both incomplete at beginning; a third example, with the first three letters of l. 1 and the first two of l. 2, was found by Droop in 1927 on the surface of Klaraki hill (*Gen. Plan* **H 7**) and enables us to complete the type. A fragment from the Acropolis with the ending only



may well represent a different variety of A.

65B. *Th.* (1). Both versions have good lettering of similar style, and may easily date from the first or even second century B.C. Pausanias mentions Artemis Knagia (iii. 18, 4) without giving an exact location to her sanctuary, but he seems to imply that one came to it after descending from the Acropolis towards the Alpion. It is hard to believe that it lay either on the Acropolis or on Klaraki hill at the extreme N.W. angle of the city-walls; and he would surely have mentioned it as near to the Chalkioikos if that was its position, as indicated by the find-spot of two examples of Type **65**A. We must conclude on our present evidence that the tiles do not give a safe clue to the position of the site.

Type **68**A. *Th.* (1). ΔΙΟΙΣ / ΑΝ *[Δαμό]σιοι π[αστάδος] [ἐργώ]να Σ̣ - - - .*

B. *Acr.* (1). ΔΑΜΙΟΙΣΟΙ / ΤΑΡΠΑΝΩΓΗΣ *[Δα]μ̣όσιοι παστ̣[άδος] ἐργώνα Πρατ[ίωνος (?).]*

C. *Th.* (1). (Fig. 24, 2.) *[Δαμ]όσιοι παστάδος [ἐργ]ώνα Καλλικράτεος.*

D. *Th.* (2). (Fig. 24, 1.) *Δαμόσιοι παστάδο[ς] Νικίων.*

Type **68**E. *Th.* (1). (Fig. 24, 3; r. half only.)
Δαμόσιοι παστάδος ἐ-
πὶ Μνασιστράτου ἐρ-
γώνα - - - μοκλέος.

F. *Th.* (1). (Fig. 24, 5.) [*Δ*]*αμ̣ό̣σ̣ι̣ο̣*[*ι παστά-*]
[*δ*]*ος ἐπ̣*[*ὶ - - α̣ - - ἐρ-*]
[*γώ*]*να Νικ*[*ί*]*π̣π̣*[*ου.*]

G. *Th.* (1). (Fig. 24, 4.) [*Δα*]*μόσιοι πα*[*στάδος*]
[*ἐργ*]*ώνα Πρα*[*τίωνος* (?).]

For another fragmentary stamp possibly belonging to this group see below, p. 239, IV. (*a*). There is little room for doubt about the seven forms given above, for B seems to justify the identification of A, and F and G shew a very similar type of lettering to E and C respectively. This is especially true of the combination C–G; in fact the relative position of the letters in the two lines of each is almost identical, and the appearance of the letters ΠΡΑ in the contractor's name in G suggests that his name has actually been recut on the stamp of C to replace that of Kallikrates. I complete the name as *Πρα*[*τίωνος*] here and *Πρατ*[*ίωνος*] in B on the analogy of the brick-stamp, Type IV, above, for we know that he was delivering bricks to the Skenotheke in the year of Kallikrates, and we now know from the corrected version of the *παράθεσις*-stamp **41**D, when compared with **41**B, that the contractor Kallikrates was also doing so in the same year.

In D it is tempting to identify the contractor *Νικίων* with the man whose name is found on types **33**A and B and **35**A and B from the city-walls.[1] In E the contractor's name is not recognisable, and there is room for a slightly longer name than the obvious restorations [*Δα*]*μοκλέος* or [*Τι*]*μοκλέος*. The Eponymos here is also found for the first time on a tile-stamp; there is an Eponymos of the name of *Μνασίστρατος* known on a *παιδικὸς ἀγών* stele from the Orthia Sanctuary,[2] and it seems reasonable that they should be identified, for he may well belong to the late first century B.C., to which century our tile, on the analogy of the other *παστάς* stamps, should also belong. F is too much rubbed to be fully legible, and the faintly visible A surviving from the name of the Eponymos (but not shewn on the facsimile) is no good clue to his identity; nor is *Νίκιππος*

[1] Cf. *B.S.A.* xiii. p. 24 f. [2] *I.G.* V. 1, 270.

hitherto known as a contractor. Until the discovery of this class of stamps the only occurrence of a *παστάς* on any tile-stamp was on that reading *παστάδος* | *ἐν Ἀλπείῳ* (Type **63**).[1] Wace is no doubt right in suggesting that *παστάς* here means a portico, but we get no clue from any ancient author to the existence of a building so called at Sparta. It now appears that it is to be distinguished from the *παστάς* for which our new group of tiles were made, and that the latter must have lain close to the Theatre. Such a structure might very well have had a

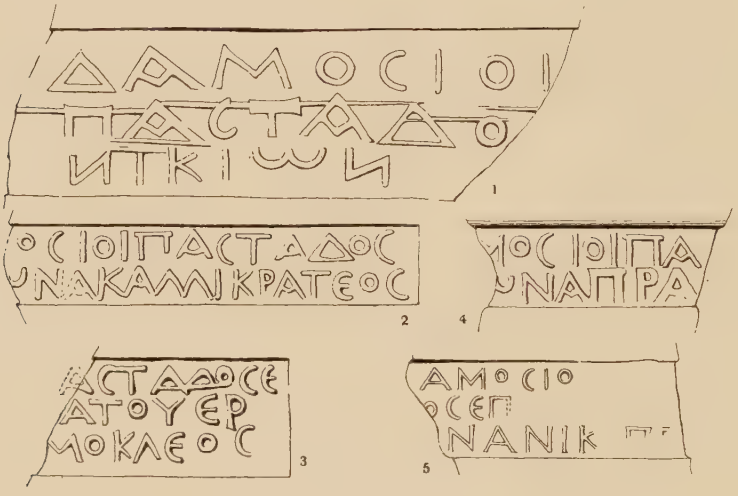


FIG. 24.—STAMPED TILES FROM THE *Παστάς*.

tiled roof, and the evidence from type **68**c, that Kallikrates was supplying tiles for it, suggests strongly that its roofing (or perhaps re-roofing) was in hand at the time the Skenotheke was being built, and that it may have been definitely one of the outlying *Stoai* beside the Theatre.

Miscellaneous Types. **51**B. *Th.* (1). //ΝΟΔΩΝ// Perhaps [*Συ*]*νόδῳ N*- -.

If this is correct, the name of the building apparently is given without *δαμόσιος*, which precedes it on the other types (**50** and **51**) belonging to it, followed by the contractor's name. The likelihood that the word is the genitive plural is very remote. In any case we do not know anything of the building in question, and the three other stamps relating to it were all found in the well at the Heroön on the river-bank.[2]

[1] *B.S.A.* xiii. p. 42; *I.G.* V. 1, 884.

[2] *B.S.A.* xiii. p. 41.

58. *Th.* (2). (Fig. 25, 3*a*, *b*.)

This is obscure, as no complete example was found. Three fragments (*a*, *b*, *c*) seem to belong together, of which two only (*a* and *c*) are illustrated, the third reading MOV / PIΓ. This is made more intelligible by yet another fragment, found in trials made in 1907 some distance to the south-east of the Theatre, which reads IMOV / IIAPICT and seems to shew the relation of the middle to the right-hand end as preserved on *c*. From this combination we reach the reading ΓTIMOVA. / ΕΠΙΑΡΙCTO, apparently to be read as

- - *τίμο(υ)-δα.*
- *ἐπι 'Αριστο-*

I cannot explain the misplaced strokes at the beginning of the left-hand fragment, and if the letters δα in l. 1 do in fact continue the name *'Αριστο-* in l. 2, the completion of it is uncertain. We know of an Eponymos named *'Αριστόδαμος* who held office towards the end of the first century of our era,[1] and it is tempting to recognise him on this tile also: there is no known alternative, since the patronomate of *'Αριστοδαμίδας*, in *I.G.* V. 1, 678, l. 1, is based on a doubtful restoration. The unusually large and strong lettering in *a* and *c* and the exactly equal height of the stamp on each seem to justify the combination of these fragments.[2]

62B. *Acr.* (1). (Fig. 25, 7.) ΑΔ probably stands for *Δαμόσιος 'Αθάνας* rather than for δαμόσιος. For a similar abbreviation cf. **62**A which has ⅄: examples of this were found at the Menelaion, in the river-bed near the Orthia site and on the hill to the west of the Gytheion road.

71. *Th.* (1). (Fig. 25, 4.) [*E*]*ὐρυκλ*[*ῆς*].

This comes from the outer (east) end of the East Parodos. To the same type may very well belong a small fragment from the north slope of the Acropolis which reads //ΓΘ only. It almost looks as if it should join the larger piece. It is impossible to say whether this stamp should be

[1] *B.S.A.* xxvi. p. 165, 1 B 1 (*γ*).

[2] Mr. Wace, who has kindly read the proofs of this section, suggests that the end of l. 1 might perhaps be restored as δα[*μόσιοι*]; but this is an unusual position for the epithet on a tile-stamp, and we should thus have to regard -*τιμο* as the end of the contractor's name, which is not normally put at the beginning of the stamp.

brought into connexion with the famous Eurykles, friend of Augustus. It seems more likely to be a maker's name, but there is no convincing reason why the well-known Eurykles—or any other Spartan citizen—should not have roofed his house with tiles bearing his own name. The finding-place proves nothing.

73. *Th.* (1). (Fig. 25, 5.) (= *S.M.C.* 407, *I.G.* V. 1, 916*a*). *Ὀ̣ησιφό̣-[ρος.]*

A similar stamp was also found at the Sanctuary of Orthia, and is now published (*Artemis Orthia*, p. 144, O.)

Fig. 25.—Miscellaneous Stamped Tiles.

75. *Th.* (1). /ΙΛΙΑΔΑ] *- ̣ιλιάδα.*

No certain restoration suggests itself among known Spartan names. *Φιλιάδας*, known in Messenia (*I.G.* V. 1, pp. VII. l. 28, VIII. l. 127), does not fit the traces of the first letter preserved; *[Βα]̣ιλιάδα* would do better, but is not known at Sparta, where only *Βασιλίδης* is recorded. A fragment of another example reading only *-ιάδα* was found at Magoula, near Sparta, in 1909.

76. *Th.* (1) /ΚΙΜΟC] *[Ὀν]ήσιμος.* No other example is known.

77. *Th.* (1). (Fig. 25, 6.) *Φιλ̣στρ - - .* Quite unintelligible. After Λ, reading from right to left, there seems a definite mark of punctuation,

and the letter following the T seems unlikely to be E in view of the curved *sigma*. Perhaps it is P, and in this case our stop may be a minute and unsuccessful *omikron*, enabling us to read *Φιλόστρ[ατος]*. But certainty is unattainable until a complete example is found.

78. *Acr.* (1). /ΕΙΔΑ/ *-είδα[s]*. Otherwise unknown; there is a brick-stamp in the Sparta Museum (*S.M.C.* 277 = *I.G.* V. 1, 916*b*) reading *Φιλιστείδας*, but there is no particular reason to connect this with our tile-fragment.

79. *Acr.* (1). /ΥΝΟΣ/ Nothing similar is known.

(iv.) The following fragments are not worthy to receive type-numbers, but are published here in the hope that subsequent discoveries may enable their stamps to be restored.

(*a*) *Acr.* (1). /ΣΙΟΣΠΛ⁻| [*Δαμό*]*σιος π - -*. I hesitate to complete the second word as *παστάδος*, seeing that all the other forms of type **68** have *δαμόσιοι*: on the other hand, it might possibly contain a blundered form of ΤΕΙΧΕ|[ΩΝ, etc.] and furnish still another variety of the *Δαμόσιος τειχέων* class.

(*b*) *Acr.* (1). |ΝΙΙ// / ΠΑ Possibly *Νικ[ονόμος]* / *Πα[ραθέσεος]*, but in this case it would be unique to have the name of the Eponymos in the nominative, for on the other stamps in which his name occurs in l. 1 (**39**, **40** A, B, E) it is in the genitive preceded by *ἐπί*.

(*c*) *Acr.* (1). |////// /ΔΑΜ/ Possibly from one of the city-wall types which have *δαμόσιος* (*vel sim.*) in l. 2, such as **38**D, E.

(*d*) *Th.* (1). |//// /ΛΥ// None of the published types with two or three lines have *λυ* at the beginning of the last line, with the single exception of the obscure stamp from the Orthia site (*Artemis Orthia*, p. 144, U(*b*)), of which the reading is uncertain. If this is different, there is a possibility, hardly more likely, that we should connect it with stamps reading *Λυκείου* found near Magoula in 1910 from the site of a sanctuary of Apollo Lykeios (*B.S.A.* xvi. p. 13, Fig. 1*h*; *I.G.* V. 1, *add.* p. 305, 1515 *i*).

(*e*) *Th.* (1). /ΟC| If not from **76** (*Ὀνήσιμος*) this might be from a

stamp reading ΔΗΜΟCΙΟC alone, found beside the late Roman wall on the north slope of the Acropolis (Gen. Plan **L 12**) in 1909.

(*f*) *Acr.* (1). ///OY// From a two-line stamp. This fits no known type.

(*g*) *Acr.* (1). (Fig. 25, 8.) - - *α*. This is equally unknown, but its bold and well-cut letter should enable it to be recognised if a complete example ever turns up.

It remains to add that examples of the following types were found on the Acropolis in the clay filling contemporary with the building of the Theatre, and thus can hardly date from much later than the reign of Augustus, and may, of course, be considerably earlier: **12**, **16**B, **17**B, **29**, **41**A, **41**D, **45**, and of those that offer new varieties of known types (section ii.) **17**A and **38**; and in section iv., the fragment beginning *Νικ* - -/*Πα* - -.

A. M. WOODWARD.

POSTSCRIPT

P. 161. Capital No. (8) with the curious abacus in two members is very likely to be the type which belongs to the Hellenistic Proskenion. Not only does its lower diameter agree with the upper diameter of the half-column (0·285 m.), but its unusual height would give us the extra ten centimetres required for the height to the soffit of the architrave (cf. p. 155). I regret that I had not recognised this possibility whilst working out the reconstruction.

P. 209. Mr. A. W. Clapham, Secretary of the Society of Antiquaries, has kindly informed me that there are certain capitals in the cloister at Monreale, near Palermo, which appear to be later developments of the type found at Sparta. Others at S. Nicola in Bari and at S. Caterina Galatina in Calabria have also features in common with it.

A. M. W.

EXCAVATIONS AT SPARTA, 1924–27.

II.—Votive Inscriptions from the Acropolis.

§ 1. *On Vase-Fragments.*

Among the votive inscriptions discovered during the excavations of 1924–27 by far the most numerous are those on vase-fragments, which number upwards of one hundred and twenty, in contrast to the modest total of thirty-four yielded by the previous campaigns on the Acropolis in 1907–08. The latter have been already published,[1] and no further reference need be made to them here, except occasionally for purposes of comparison. As the illustrations shew, as far as possible, the form of the sherd as well as the exact nature of the lettering, detailed descriptions are superfluous, and brief comments will suffice. The items are arranged to some extent according to the types of vases dedicated, but no chronological order is attempted; where, however, a group of vases of more than one shape is found to bear the same dedicator's name, they have been placed together, as on Fig. 2, 1–7.

The inventory of inscribed sherds is followed by a list of the votive inscriptions, mainly on bronze objects, which have been published already in previous reports on these excavations, and by two unpublished texts, one on bronze and the other on marble.

Fig. 1. Inscriptions in black or brown paint, on a light ground, mostly dating from the fifth century.

1. [- - *ἀνέθεκ*]*ε τᾶι Ἀθ*[*αναίαι*]. 2. [- - *τᾶ*]*ι Ἀθα*[*ναίαι*]. 3. [- - *τᾶι Ἀθαναί*]*αι*. 4. - - *ἀνέ*[*θεκε* - -]. 5. - - *ις ἀν*[*έθεκε*]. 6. [- - *ἀ*]*νέθεκε* - -. 7. -*θ* (perhaps [*Ἀ*]*θ*. only: cf. the abbreviation A on Fig. 6, below.) 8. [- - *ἀ*]*νέθ*[*εκε*]. 9. [*Ἀθαν*]*αί*[*αι*] or [*Ἀθαναί*]*αι*. 10. P (?). 11. - - *ις ἀ*[*νέθεκε*]. (Perhaps from the same donor as No. 5.) 12. [*Ἀθαν*]*αί*[*αι*] or [*Ἀθαναί*]*αι*. 13. [- - *ἀνέθ*]*εκ*[*ε*]. 14. - - *ιν*.*ε* - -. (Uncertain: in brown wash on buff ground, from a large vase of doubtful shape, perhaps Lac. V. or VI.)

[1] *B.S.A.* xxiv. pp. 119 ff., Nos. 70–103.

15. *Ko* - -. 16. *Ἀρι* - -. 17. [*Ἀθαναί*]*αι* (? retrograde). 18. *Τᾶι* [*Ἀθαναίαι*] (?). 19. *Ἀθαναίαι*. (On buff ground.) 20. [*Ἀ*]*θαναία*[*ι*]. 21. - - *ολος Ἀθανα*[*ίαι*]. (Both on white slip, finely engraved, apparently in the same hand; not later than 450 B.C. The name is unrecognis-

FIG. 1.—VOTIVE INSCRIPTIONS ON VASE-FRAGMENTS FROM THE ACROPOLIS, SPARTA. (Painted on light ground.)

able, and there are several possible alternatives for its restoration: *e.g.* [*Ἀγχίμ*]*ολος* (Hdt. v. 63[1]), [*Π*]*ῶλος* (Xen. *Anab.* vii. 2, 5) or [- *β*]*ολος* (= - *βουλος*). Three fragments of very similar style to these were found in 1907–08, which may well be contemporary, if not from the same

[1] Cf. Poralla, *Prosopographie der Lakedaimonier*, 30.

donor (cf. *B.S.A.* xxiv. *loc. cit.*, Nos. 94, 95, 96.). 22. - - ιος μ̣'[*ἀνέθεκε*] (?). The *o* seems blundered and the vertical stroke after the *sigma* may be merely for decorative purposes. This, like Nos. 5 and 11, may be dated to the sixth century on the evidence of the five-stroked *sigma*. 23. [*Δ*]αμο̣ - -. Apparently contemporary with Nos. 20 and 21; if this should be the beginning of the name ending in -ολος, we should have perhaps the name *Δάμολος*, which I cannot find elsewhere.[1]

A few more painted inscriptions, in white on a dark surface, appear on Fig. 6, 14 and 17–25.

Fig. 2. Inscriptions incised on black-glazed Hellenistic ware (mostly 4th and 3rd centuries B.C.).

1–7. Dedications by Damaris:—1. *Ἀνέθ̣[ηκε - -]*. 2. [*Ἀνέ*]*σηκ̣ε Δαμα*[*ρὶς - -*]. 3. [*Ἀνέσηκε*] *Δαμα*[*ρὶς - -*]. 4. [*Ἀνέσηκ*]*ε Δαμαρὶς τ*[*ᾶι Ἀσαναίαι*]. 5. [*Ἀνέσ*]*ηκε Δαμα*[*ρὶς τ*]*ᾶ̣ι Ἀσαναίαι*. 6. [*Ἀνέσηκε Δ*]*α̣μαρὶς τᾶ̣ι Ἀσα*<*ι*>*ν̣*[*αίαι*]. 7. [- - *τᾶι Ἀσ*]*αναίαι*. Another fragment of this group (Fig. 6, 27) reads [*Δα*]*μαρίς̣*. The dedicator's name is hitherto unknown at Sparta, though other names formed from the root δαμ- are common there. It is presumably a woman's name, and it is not impossible that the bearer in this instance was connected with the Eurypontid royal line, of which more than one member bore the name Damaratos. On the evidence of the writing, this group cannot differ much in date from the group of black-glazed vessels of similar type dedicated to Orthia by Chilonis, who was possibly daughter of one of the late Spartan kings, Cleomenes II., Leotychidas or Leonidas II., each of whom had a daughter so-named.[2] If one of these three identifications be accepted, the date of Chilonis's offerings would fall between 270 and 200 B.C., and we may accordingly date the dedications of Damaris approximately to the middle of the same century.

8–12. Dedications by Eurystheneia:—8. [*Εὐρ*]*υσθένεια τᾶ̣*[*ι Ἀσαναίαι*]. 9. [*Εὐρ*]*υσθένεια - -*. 10. *Εὐρυσθ*[*ένεια - -*]. 11. *Ε̣ὐ*[*ρ*]*υσθ*[*ένεια - -*]. 12. [*Εὐρυσθέν*]*ε̣ια Ἀθ*[*αναίαι*]. (Nos. 11 and 12 are on fragments very similar in section, but they do not seem to belong to the same plate.) Again the donor is unknown, but it is possible that she was a member of the Agid royal line, as the name Eurysthenes is only known at Sparta in this

[1] Perhaps the same as *Δαμύλος*. *I.G.* V. 1, 802*b*, 914, 1033.

[2] Cf. *The Sanctuary of Artemis Orthia*, pp. 372 ff. and Fig. 142; *B.S.A.* xxiv. p. 112; Poralla, *op. cit.* p. 148 f.

family.[1] The lettering suggests a slightly earlier date than the dedications by Damaris, perhaps *ca.* 300 B.C.

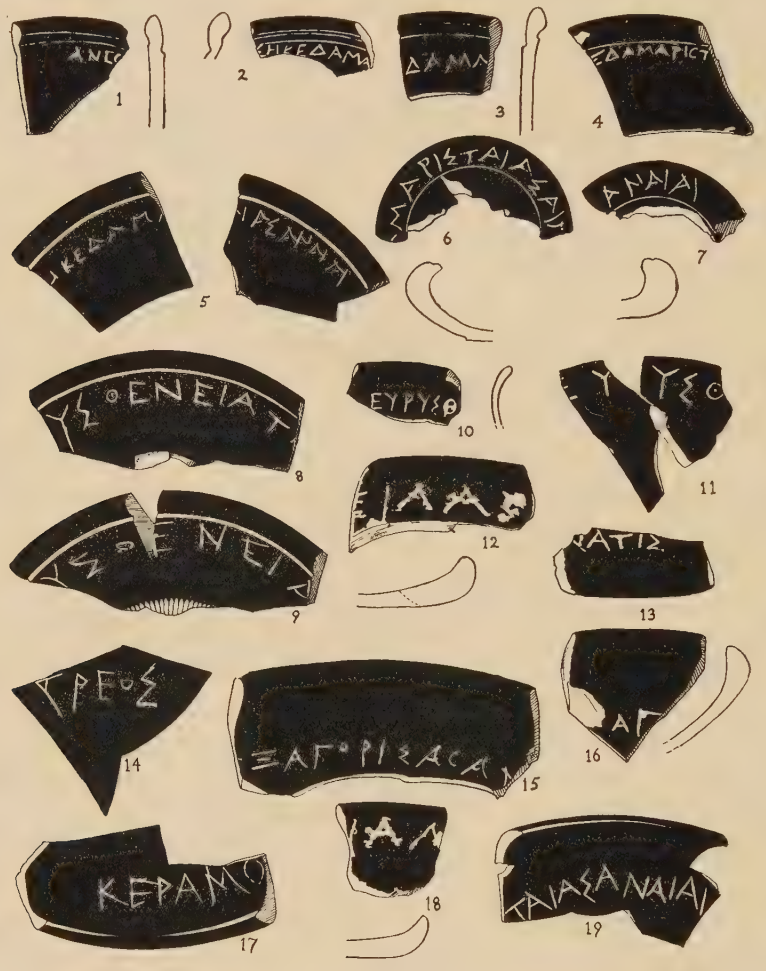


FIG. 2.—VOTIVE INSCRIPTIONS ON VASE-FRAGMENTS.
(Incised, on black-glazed Hellenistic ware.)

13. - - *γατις*. (*Διογνατίς*?). 14. *Ἄρεος*. Presumably the genitive of the donor's name, *Ἄρευς*. Again, though the name is not rare at

[1] In addition to the legendary Eurysthenes (Hdt. vi. 52, vii. 204) there was the man of this name who held a command in Asia Minor in 399 B.C. (Xen. *Hell.* iii. 1, 6 = Poralla, *op. cit.* 332).

Sparta, this may be a dedication by a member of the Agid royal house, of which three members bore this name in Hellenistic times.[1] 15. [*'E*]*ξαγορὶς 'Ασαν*[*αίαι*]. (Note the use of both rounded and four-stroked *sigma* in the same inscription; the dedications by Damaris exhibit both forms.) The donor is unknown, and I have not traced the name elsewhere.[2] 16. [*'Εξ*]*αγ*[*ορίς*] (?). 17. *Κέραμο*[*ς*]. This is not a name previously found at Sparta. Names formed from the same root are not rare, *e.g.* at Athens, where we have *Κεραμῶν* (Xen. *Mem.* ii. 7, 3; *I.G.* ii². (*Ed. Min.*) 1672, l. 249) and *Κεραμὼ* as a woman's name (*I.G.* i². (*Ed. Min.*) 997).

18. Perhaps [*'Ασαναία*]*ι ἀ*[*έσηκε*], though *ιαλ* and *ραλ* are also possible readings. 19. - - *τâι 'Ασαναίαι.*

Fig. 3. Incised inscriptions: Nos. 1–9 on Hellenistic platters; Nos. 10, 11, 13, 17 on fragments of various types; Nos. 12, 14, 15, 16, 18–21 on Hellenistic kraters.

1. [*'Α*]*θα*[*ναίαι*]. 2. [*'Αθαν*]*αία*[*ι*]. 3. [*'Αθαναί*]*αι.* 4. - - *ἀνέθ*[*ηκε* - -]. 5. - - *λε*[- - *ἀνέθηκε*]. 6. [- - *ἀνέθ*]*ηκε.* (Nos. 4, 5, 6 come from platters with different profiles, so cannot be combined.) 7. - - *η* - -. 8. - - *ν* - -: (on a fragment of a platter of light grey clay, rather less heavy in profile than the others shewn on Figs. 2, 3 which are all black, or very dark grey.)

9. [*'Αθαν*]*αίας.* 10. - - *κας*: the five-stroked *sigma* suggests a late sixth-century date. 11. *Φανι* - -, or - - *φανί*[*ς*], rather than (retrograde) - - *ιν 'Αθ*[*αναίαι*], as *φ* is not a Laconian form of *theta.* 12. - - - *ε* [*ἀνέθηκ*]*ε* (?). 13. - - *Δαμο* - -: (cf. Fig. 1, 23). 14. [- - *ἀνέ*]*σηκε.* 15. *Ἄρατος* [*ἀνέσηκε*]. 16. *Ἄρα*[*τος* - -]. 17. - *αρα* - . (*Ἄρα*[*τος*] (?)). 18. *Ἄρ*[*ατος* - -] (?). 19. *Σαλιάρ*[*τος* (?)] *ἀνέσηκε.* 20. - - *'Ασαναίαι.* 21. [*Σαλιά*]*ρε*[*τος τâι 'Ασ*]*αν*[*αίαι*]. No. 14 preserves part of the decoration in relief from the side of the krater, in this case a fragment of drapery, and Nos. 12, 15, 16, 18, 19, 20 and 21 all come apparently from similar kraters with projecting rims and relief-decoration. The principal examples have been published by Miss M. B. Hobling (*B.S.A.* xxvi. pp. 297 ff.), who did not collect the inscriptions, some more of which came to light after her article was written. Aratos is a common name in the Peloponnese, for, in addition

[1] Poralla, *op. cit.* pp. 147 ff. The latest of the three (cf. Josephus, *Antiq.* xii. 225, xiii. 165) may perhaps be identified with the Areus who was sent as envoy to Rome in 187/6 and 184/3 (Polyb. xxiii. 11; xxiv. 4).

[2] *'Εξαγόρας* is not one of the names compounded with *ἀγορά* given in Bechtel's *Historische Personennamen des Griechischen bis zur Kaiserzeit* (1917).

to its famous bearer from Sikyon we find it borne by an Argive (*I.G.* ii. 1249), and at Sparta in *I.G.* v. 1, 94, l. 2; 211, l. 14 (both first century B.C.).[1] 19, 21. *Σαλιαρε̣* - - is not at first recognisable. Presumably the

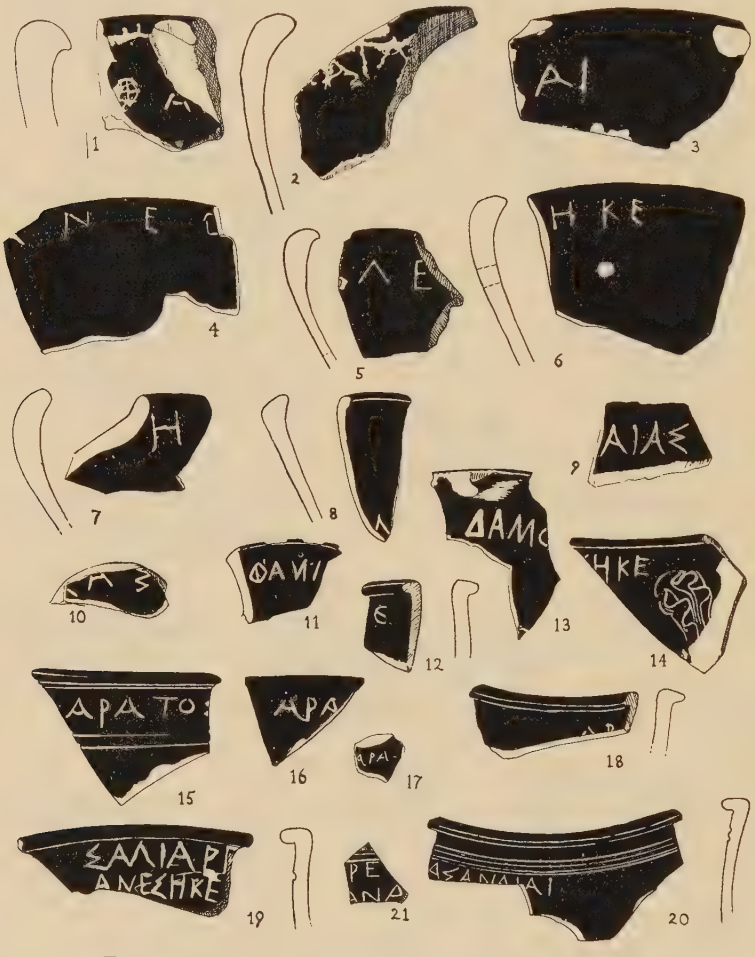


FIG. 3.—VOTIVE INSCRIPTIONS ON VASE-FRAGMENTS.
(Incised, on black-glazed plates and kraters.)

name is written with *sigma* for *theta*, and is formed from the root *θαλι*- (cf. *Θαλίαρχος*, etc.); and to complete it as *Σαλιάρε*[*τος*] gives us a possible

[1] Cf. *Ἀράτα*, a Laconian woman whose cure is recorded at Epidaurus, *I.G.* IV². (*Ed. Min.*), 121, l. 1.

name, though I have not traced it elsewhere.[1] No. 21 ,which comes from a similar krater, may preserve part of the same name. (I believe this to be identical with the piece published in *B.S.A.* xxiv. *l.c.*, No. 100 : it is worth reproducing more accurately here now that we see to what series it belongs.)

Fig. 4. Miscellaneous Incised Inscriptions, mostly on fragments of large vases.

1. Fragment of Attic ware, probably from a Panathenaic amphora :— - - ϵ - - [ἀνέθϵκ]ϵ(?). 2. On a fragment of tile, with black glaze : ϵ̣ρ. . . . . μτοξ̣ - - | αϜοσειεhοικατ - -. About six letters are lost from the middle of l. 1, and of those preserved three are doubtful : the first seems to have been ϵ or Ϝ, according to the amount lost from above ; the second, very uncertain, was perhaps ρ or υ. After the gap, apparently μτοξ or ν̣ι̣τοξ̣, for Χ cannot be for *chi* at the date which we must ascribe this text, namely *ca.* 500 B.C., or even a little earlier. For l. 2 I would suggest [σ]αϜοσειϵ hοικάτ[ϵ] = σωσείϵ hοικάτϵ[2] (' may (s)he bring safely home ! '), but of l. 1 I can make nothing. It would thus appear that this is not strictly a votive offering but rather a prayer to the deity (Athena ?).[3]

3. Ν̣[ί]κων | Ἀσ̣α̣ν̣α̣ί̣[αι] | ἀ[νέσηκϵν]. Probably fourth century B.C. 4. Two fragments from the ornate foot of a large vessel : perhaps to be combined as ἀ[νϵ]θκϵ̣. The clumsy and untidily incised letters are consistent with such an error as the omission of the ϵ after the θ, of which another, and earlier, instance is to be found in *B.S.A.* xxviii. p. 70, Fig. 13*a*. Date, *ca.* 500 B.C. 5. *H* κκκκκκκκ̣. Presumably a votive inscription by an illiterate person, who desired to inscribe the object offered, even if the text were only nonsense. 6. - - ϵι - - . this, like No. 1, seems to be on a fragment of a Panathenaic amphora. If we read ϵι this must be part of the dedicator's name, but if the second sign were part of a tall Τ, perhaps [- - ἀνέθϵκ]ϵ τ̣[ᾶι Ἀθαναίαι]. For the discovery of Panathenaic amphorae at the sanctuary of Chalkioikos cf. *B.S.A.* xiii. pp. 150 ff. ; xiv. p. 145 : a few more small fragments came to light in the excavations of 1924–25,

[1] For -θαλης or Θαλι- compounds cf. Bechtel, *op. cit.* p. 197 ; such a compound with the root of ἀρετή seems in no way unlikely.

[2] For the root σω = σαϜο, see Buck, *Greek Dialects*[2], p. 34, 41[2] ; for Ϝοῖκος = οἶκος, *op. cit.* p. 44, 52.

[3] For prayers recorded in sanctuaries cf. Rouse, *Greek Votive Offerings* (in Index, *s.v.* prayer). For sailors' prayers for a safe voyage, cf. *I.G.* V. 1, 1538 ff., the εὐπλοια-inscriptions engraved on the rocks at the island of Prote off the Messenian coast ; for similar documents at Syra, *I.G.* XII. 5, 712, *25–30*, and at Thasos, *I.G.* XII. 8, 581 ff.

7a, b, c. Three fragments from the shoulder of a large hydria of grey clay, with greyish-black glaze : - - *ρο* - -; - - *ακρ* - -; - - *ιφ* - -. For the style of vase, inscribed in lettering of similar type, we may compare the fragment from a fine relief-hydria, inscribed *'Ασαναίαι*, published in *B.S.A.*

FIG. 4.—VOTIVE INSCRIPTIONS ON VASE-FRAGMENTS.
(Incised, on miscellanous black-glazed ware.)

xxvi. p. 309 and Fig. 10*s*. *7a* and *7b* seem to duplicate the same name, and it is just possible that they belong to two separate, but similar, vases, unless the name were inscribed twice. In either case it is tempting to restore the name as *'Ακρό*[*τατος*], and to recognise the donor as the son

of Kleomenes II., who died before his father's reign ended in 309 B.C.[1] I can make nothing of *7c*. 8. *Δώπυρος*, = *Ζώπυρος*. For the substitution of δ for ζ in the Laconian dialect cf. Bourguet, *Le Dialecte Laconien*, pp. 37 ff., 147 f. 9. On a fragment of a painted vase (Lac. V. (?)) : - - *θ̣* - -.

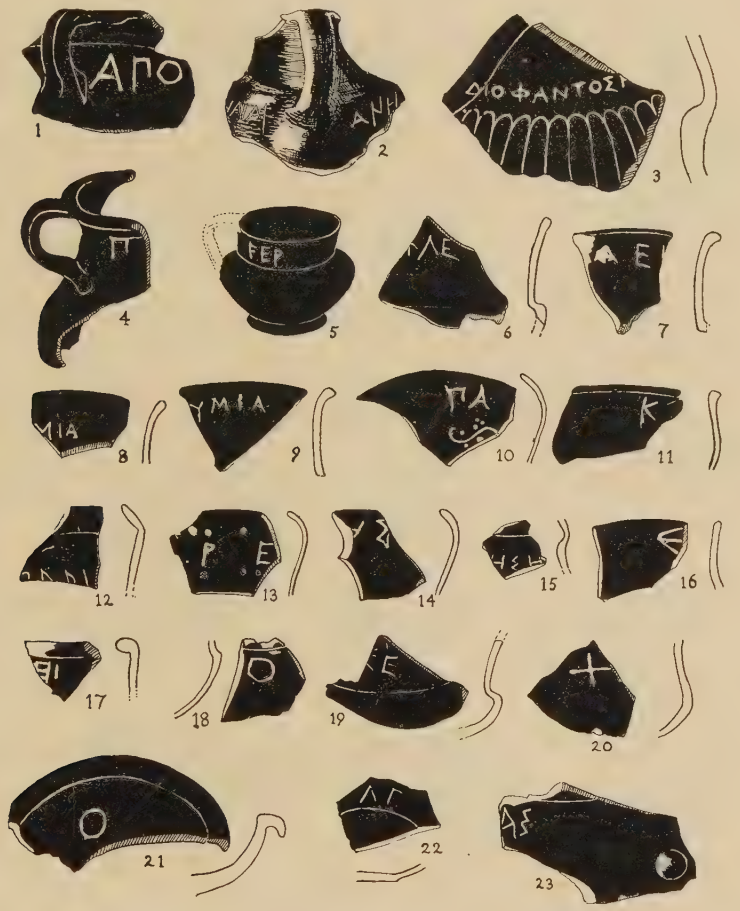


FIG. 5.—VOTIVE INSCRIPTIONS ON VASE-FRAGMENTS.
(Incised, on small black-glazed jugs, cups, etc.)

10. [- - *ἀνέ*]*θ̣εκε*. 11. [- - *Ἀθαν*]*ạ́αι*. 12. - - *θ* - -. 13. On the neck of a Hellenistic amphora with a vine-motive painted on the shoulder and vertical ribbing on the body : perhaps [*Ἀθά*]*ṿạ̣ς*.

Fig. 5. Mostly on small jugs and cups (fifth century and later).

[1] Cf. Poralla, *op. cit.* p. 147.

1. *Απο - -*. 2. *Ανη[- - Αθα]ναίαι*. Perhaps the name should be completed as *Ανήριστος* (cf. Hdt. vii. 134, 137; Thuc. ii. 67 = Poralla, *op. cit.* 94, 95). 3. *Διόφαντος ἀ[νέθηκε]*. 4. *Π - -*. 5. *Fερ*. This abbreviated name no doubt contains a dedication to Athena Ergane (*Fεργάνη*), whose sanctuary was very close to that of Athena Chalkioikos (Paus. iii. 17, 4.). For the *digamma*, see Bourguet's remarks, *op. cit.* p. 37(2). 6. - - *κλε - -*. 7. - - *αει - -*. 8. - - *μια*. 9. - - *υμια*. Two cups dedicated by the same person, whose name may well have been *Εὐθυμία*. For the name cf. *Εὔθυμος*, *I.G.* V. 1, 26, 1.5. 10. *Πα - -*: perhaps an abbreviation. 11. *K - -*. 12. - - *ρᾳδι - -* (?): unintelligible. 13. - - *ρε - -*. 14. *Βᾳ[σιλίδας]*(?); cf. Fig. 6, 21 [*Βα*]hιλιδ -, and the group of fragments found in 1907–08 in which I have recognised the name *Βασ*(h)*ιλίδας* (*B.S.A.* xxiv. *l.c.*, Nos. 81–84, 99). 15. - - *ησῃ - -*: perhaps a dedication by an Ionian or other foreigner, as the presence of two *etas* is improbable in a Laconian name. 16. *Ε - -*. 17. - - hι - -: perhaps [*Βα*]hι(*λίδας*). 18. - - *ο - -*. 19. [- - *ἀνέθη*]*κε*(?). 20. *χ - -*. 21. *Ο - -*. 22. *Λγ*: perhaps intended as *Αγ - -*, since the abbreviation *Λγ* seems unlikely to be known at Sparta. 23. [*Αθαναί*]*ας*.

Fig. 6. Miscellaneous. Nos. 1–13, 15, 16, 26, 27, 28 have incised inscriptions, the remainder painted.

1–11, 14. On these is written A only, and on at least four (Nos. 3, 9, 11, 22) the inscription is complete, being obviously an abbreviation for *Αθαναίαι* (or - *ας*.). Some of the others, particularly the smaller fragments, may be from incomplete dedications. 12. - - *ρημ - -*(?). 13. [- - *ἀνέθεκ*]*εν*(?).[1] 14. (See above.) 15. - - *ρσ - -*. 16. - - *σ - -*. 17. - - *χων.*(?): doubtful. 18. [*Αθαναί*]*αι*(?). 19. *Ηα* (complete). 20 *Η -*. 21. [*Βα*]hιλίδ[*ας*](?): cf. Fig. 5, 14. 22. (See above.) 23. - - *ρε*(?). 24. - - *δρὶς ἀνέ*[*θηκε*]: perhaps some such name as [*Αλεξαν*]*δρίς* or [*Κλεαν*]*δρίς* should be restored. 25. On a fragment of a black-glazed amphora, with remains of a figure of Athena in white paint (cf. *B.S.A.* xxviii. p. 77, Fig. 17, where this piece is described and illustrated) [*Αθ*]*αν*[*ίαι*]. 26 - - *ολαν - -*: cf. *B.S.A.* xxiv., *l.c.*, Fig. 3, 88, where ΟΛΑΝ appears on a rim-fragment. The name is not recognisable. 27. [*Δα*]*μαρίς*, as above, Fig. 2, 1–7. 28. - - *εθε - -* (or perhaps *σθε*, if the

[1] Doubtful, as the 'N *ἐφελκυστικόν*' is not normally found in Laconian inscriptions at the date to which we must assign this on the evidence of the early *epsilon* (*ca.* 500 B.C.); cf. *B.S.A.* xxvi. p. 274. For an exception see *I.G.* V. 1, 919, *Διοσκώροισιν*; Bourguet, *op. cit.* pp. 58 ff., in discussing this text does not note this as an unusual feature.

first horizontal stroke could have been from the top of a *sigma*) : in the latter event, presumably to be restored [*Εὐρυ*]*σθε*́[*νεια*], as on Fig. 2, 8–11, above.

To complete the list of dedications on vase-fragments, mention must

FIG. 6.—VOTIVE INSCRIPTIONS ON VASE-FRAGMENTS.
(Miscellaneous, painted and incised.)

be made of the following : (1) on the neck of a painted oinochoe (Lac. III, *B.S.A.* xxviii. p. 70, Fig. 13*a*), - *Λι* - - *ἀνέθκεν Ἀθαναία*[*ι*] : for the omission of the *epsilon* cf. Fig. 4, 4, above. (2) On a fragment of a one-handled cup, *Μετριος ἐγο* - -. The lettering indicates that this must be one of the very earliest of our inscribed sherds, perhaps dating from the beginning of the

sixth century. Whether it be name or adverb (= μετρίως) is hard to decide.

§ 2. *Votive Inscriptions on Objects other than Pottery.*

Most of the inscribed bronze objects have been already published, but it may prove convenient to refer to them briefly again here.

(1). Statuette of Athena, inscribed *Ἀθανα[ί]α[ι]*: *B.S.A.* xxviii. p. 87, Fig. 2.

(2). Model breastplate, inscribed, retrograde, *Ἀθαναίαι*: *ibid.* p. 91, 22 (= *Preliminary Report*, 1924, Fig. 7, centre).

(3). Bull, inscribed *Ἀθαναίας*: *ibid.* p. 89, Fig. 4, 13.

(4). Bell, inscribed *Ἀθαναίαι ἀνέθεκ' Ἐνπεδοκλέες ἀν | έθεκε*: *B.S.A.* xxvi. p. 270, and Fig. 5, 2 (= *Prelim. Report*, 1924, Fig. 7, top left-hand).

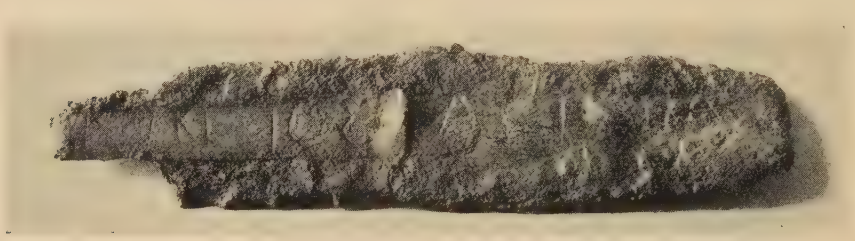


FIG. 7.—IRON BLADE WITH BRONZE MID-RIB WITH INCISED DEDICATION.
(Scale *ca.* 3 : 5.)

(5). Bell, inscribed *ἀνέθεκε Καλικρατία : αι | Ἀθαναία[ι]⟨α⟩*. *Prelim. Report, l.c.*

(6). Mirror, inscribed *[Ἀθα]ναίαι ἀνέθεκε Εὐονύμα*: *B.S.A.* xxvi. pp. 271 ff. and Fig. 6.

(7). Piece of thick bronze plating, inscribed - - *Χαλκεῖα*: *B.S.A.* xxvi. p. 273 and Fig. 5, 1.

(8). (Fig. 7.) Unpublished. Part of an iron blade, with a flat bronze mid-rib, on which is incised *Λύκειος Ἀρε//ία[ι]*. The first word, which must be the dedicator's name, is presumably to be explained as a 'Festname,' derived from the local cult of Apollo Lykeios.[1] The second word must be that of the recipient of the dedication, and is apparently to be restored as *Ἀρε[Ϝ]ία[ι]* = *Ἀρείαι*, *i.e.* the Warlike Aphrodite, whose

[1] For the cult of Apollo Lykeios at Sparta, unknown previously, cf. the tile-stamp (*B.S.A.* xvi. pp. 3 and 13, Fig. 1, *h*), and the statue from the Theatre, published in *B.S.A.* xxviii. pp. 23 ff. For 'Festnamen' cf. Fick, *Gr. Personennamen*, pp. 298 ff.

shrine we know to have been on the Acropolis, close to that of Athena Chalkioikos.[1]

The following are on marble objects :

(9). Stele dedicated by Aineidas, *B.S.A.* xxvi. p. 233, No. 25.

(10). Stele dedicated by Eteoi[tas], *B.S.A.* xxvii. p. 250 f., No. 38.

(11). *Halter*, dedicated by Paitiadas, *ibid.*, p. 251 f., No. 39.

FIG. 8.—FRAGMENTS OF PARIAN MARBLE WITH RELIEFS ON BOTH SIDES: THE LARGER, FROM A SHIELD (?), IS INSCRIBED WITH THE NAME [*H*]ιποδαμ - -.

(12). (Fig. 8, left.) Unpublished. Fragment of island (Parian?) marble, from a shield, with reliefs on each side : on the convex side, remains of a helmeted head to r., and on the concave side, an uncertain subject, which looks like the outer edge of a lion's mane. On the former, in front of the helmet-crest, is incised in very faint letters ΙΠΟΔΑΜ. This is perhaps not a votive inscription at all, and its meaning is obscure. It may possibly be the remains of the dedicator's name, if it is votive, *e.g.* Hippo-

[1] Pausanias, iii. 17, 5. For the *digamma* in *Ἀρεϝία* cf. Buck, *Gr. Dialects*[2], p. 45, § 53.

damas or Hippodamos (with long or short *alpha*), or else connected with the subject of the relief. We must reject the temptation to see in it the love-name Hippodamas, used on vases by Douris and Makron, for the D is not an Attic form, and the style of the relief seems to be definitely too early to allow of this identification.[1] The other fragment illustrated, which is not inscribed, is of similar marble, and must be about contemporary with it. It shews the same type of helmet, and apparently represents Athena, in view of the earring which the figure is wearing. There is also a portion of a relief on the back, merely a long lock of hair, but the fragment has not the curve of a shield, and it is hard to understand its original shape.

A. M. WOODWARD.

[1] I am much indebted to Professor J. D. Beazley, to whom I submitted photographs, for his kind help in this connection. He draws my attention to the type of the helmet with a triangular projection on the front, which is of an early, non-Attic type, and resembles those 'common on Clazomenian vases and sarcophagi, and Rhodian perfume-vases in the shape of helmeted heads'; and assures me also that the Hippodamas vases of Douris and Makron are too late (*ca.* 490) to allow us to regard [*H*]ιποδάμ[ας] here, if rightly restored, as the love-name found on them.

ANNUAL MEETING OF SUBSCRIBERS.

THE Annual Meeting of Subscribers to the School was held in the Rooms of the Society of Antiquaries, Burlington House, on Tuesday, November 5th, 1929, SIR RENNELL RODD in the Chair.

The Chairman of the Managing Committee, MR. GEORGE A. MACMILLAN, presented on their behalf the following Report for the Session 1928–1929 :—

Resignation of the Director.—The Committee received with regret the Director's intimation that he would not be willing to accept reappointment at the end of the session, when he had completed six years of office, as the claims of administrative duties seemed to encroach continuously and increasingly on his time, to the exclusion of opportunities for reading and research.

The Committee have appointed to succeed him Mr. Humfry G. G. Payne, B.A., Research Scholar of Christ Church, Oxford, who was first admitted as a student in 1924–25, readmitted in 1925–26 and 1926–27, and again with a grant from the Macmillan Studentship Fund in the present session.

The Assistant-Director has been reappointed for a further term of three years.

R.I.B.A. Bursary.—The Committee have accepted with very great pleasure the offer of the Royal Institute of British Architects to found at the School a Bursary of £100 a year tenable by a member of the teaching staff of one of their recognised architectural schools. Such practical recognition cannot but be of the greatest advantage to the School, especially as in connection with this foundation the Institute further agreed to pay an annual subscription of £50 to the School. This entitled them to representation on the Committee, and the appointment of Mr. H. M. Fletcher, a former student of the School, as the R.I.B.A. representative, is most welcome.

The Director.—The Director was in England from September 1st to November 10th, during which period he completed his contributions to the *Hellenic Journal* and the *Year's Work*, and his share of the Annual Report, and made progress with his chapter on the Inscriptions for the *Orthia* publication referred to below. At the Annual Meeting of the School, on November 6th, he gave a brief account, in retrospect, of the School's excavations at Sparta in the years 1924–27. Leaving England soon afterwards he revisited the museums of Marseilles and Naples on his way back to Athens, where he arrived on November 18th. On November 30th he left for Crete, in order to report, with Mr. De Jong, on the repairs and renewals needed at the Villa Ariadne. Owing to inclement weather he had time for only one expedition, to Mallia, and returned to Athens on December 9th. He then resided continuously in Athens through the winter, and left for Berlin on April 18th, to represent the School at the Centenary Celebrations of the German Archæological Institute, and presented a message of congratulation and good wishes on behalf of the Committee, drawn up by Mr. M. N. Tod in the form of a decree in ancient Greek, which is reprinted below. On this occasion he also gave a short lecture on the results of the recent excavations at Sparta. Returning, by Vienna, on April 29th, he left on May 9th with Mrs. Woodward for Sparta, where they worked in the Museum making an inventory of the finds, and the Director checked various points for his reports, during the remainder of the month. He was back in Athens on June 2nd, and left again three days later for Crete. After spending a few days at the Villa Ariadne, mainly in dealing with matters of administration, he went by Rethymno to join Mr. Payne at his excavations at Eleutherna for a few days, whence his return was delayed three days by a shipping-strike, and only reached Athens again on June 19th. The remainder of his time was largely employed in completing accounts, collecting material for reports, and in preparations for departure and for handing over to his successor; and he left Athens, finally, for a holiday in the Alps, *en route* for England, on July 13th.

These activities naturally left the Director little opportunity for study or writing, from April onwards. During the winter his main tasks consisted in completing his contributions to the publication of *The Sanctuary of Artemis Orthia*, namely, the chapters on the inscriptions and the architectural terracottas, and the section on the coins; in addition to these, when at Sparta in May, he supplied important additional material for the chapter on the jewellery and miscellaneous finds, and supervised Mr. De Jong's preparation of the necessary illustrations. For the *Annual*, in addition to assisting the editor with the revision of the paged proofs, he made a start on the publication of the remainder of the inscriptions from the excavations at Sparta in 1924–27, but found it impossible to complete the paper before leaving Greece in July. In addition he made a little progress with the apparently endless task of identifying the coins from the same site, in the Numismatic Museum, and spent some time in the Epigraphical Museum, partly in introducing students to its contents, and

partly in studying, with a view to publication, some more fragments of Attic financial documents; but here too he was unable for lack of time to make satisfactory progress.

Among the duties incidental to his position it may be recorded that the Director attended Open Meetings at the foreign Schools, and at the Greek Archæological Society, as well as an inaugural lecture by Professor Oikonomos at the University and a special meeting of the Academy of Athens to do honour to Professor G. N. Hatzidakis; he was present at the laying of the foundation-stone of the American School's new Hall of Residence, and, on the occasion of the visit to Phaleron of the Mediterranean Fleet in January, lectured to the ship's company in H.M.S. *Ramillies* on 'What to see in Athens.' From the list of visitors given below it will perhaps be realised that receiving visitors and callers occupied even more of the Director's time than in previous sessions. The Committee heard with pleasure of the Director's election as an Hon. Associate of the R.I.B.A. and as an Hon. Member of the Archæological Society of Athens.

The Assistant-Director.—Mr. W. A. Heurtley spent part of August and September, 1928, in Hungary, where he visited various local museums, and studied also in the museums of Buda-Pesth and Belgrade. During October he was in Salonika, working on the finds from his latest excavations, and returned to Athens at the end of the month. Except for a visit to the museum of Chaeronea he resided continuously in Athens until March 6th, when he left to begin his excavations in Macedonia, which are described below; and from April 16th, the date of his return, he was continuously in residence until July 9th, when he left for a holiday in Ireland, travelling via Buda-Pesth and Berlin.

During the session, in addition to carrying out his usual duties in the Hostel and Library, he worked at his excavation-report for the *Annual*, Vol. XXIX, and prepared a communication for the Academy of Athens, which was presented by Professor G. Soteriades on February 21st, summarising the results of his work on the prehistoric civilisation of Macedonia.

The Archæological Curator at Knossos.—Dr. Mackenzie reached Knossos on February 16th, and was in residence until the middle of June, when, owing to the state of his health, it was decided that he should anticipate the termination of his office.

The Committee take this opportunity to express to him their thanks for his distinguished services and their best wishes to him on his retirement, which means the termination of a long connection with the School, first in Melos, and then almost continuously for thirty years as assistant to Sir Arthur Evans at Knossos.

Mr. J. D. S. Pendlebury, the Macmillan Student, has been appointed to succeed him as Curator. The Committee wish to congratulate Mr. Pendlebury on his appointment as Director of the excavations of the Egypt Exploration

Society for their work at Tell el-'Amarnah. Mr. Pendlebury's attainments in Egyptology will be a valuable asset to him in his work at Knossos.

Students.—The number of students admitted during the session reached the excellent total of nineteen, less than half of whom, however, were able to stay the required period of three months in Greek lands. The names of those who complied with this requirement are given first :—

Miss Christina Barratt, M.A., Somerville College, Oxford, assistant-lecturer at the Royal Holloway College, arrived at Athens in March, after spending some weeks in Vienna working in Professor Wilhelm's Seminar. She studied in the Epigraphical Museum, to obtain familiarity with the reading of inscriptions, and also completed a paper on the eponymous Archons of Boeotia. She visited the chief sites of Attica, and likewise travelled in Thessaly, Central Greece and the Peloponnese, and made a trip to Crete, finally leaving Athens late in June.

Mr. Oliver Davies, B.A., Exeter College, Oxford, Craven Fellow, continued his researches concerning ancient mines, and confined his attention mainly to Greece, with short trips to Serbia and Cyprus. He was also present for part of the time during Mr. Heurtley's excavations in Macedonia. Though he has not yet finished his work in Greece, he thinks that important results both for ethnology and for the history of ancient commerce are emerging from his researches. A first instalment of his results has already appeared in his article ' Two North Greek Mining Towns,' in *J.H.S.*, 1929, Pt. I.

Miss Mildred Hartley, Girton College, Cambridge, holding the ' Old Girtonians' Studentship,' spent over eight months in Greece, from early November to mid-July. She chose as her main subject for study Crete in the Archaic period, and combined with it a study of Greek pottery, from proto-Geometric to Corinthian. She spent about ten weeks altogether in Crete, working in the Candia Museum and visiting sites in the centre and east of the island, and during most of June assisted Mr. Payne in the trial-excavations at Eleutherna described later. In Greece proper she visited Thessaly, Euboea and Delphi, and travelled extensively in the Peloponnese.

Mr. W. A. Laidlaw, M.A., Trinity College, Dublin, Lecturer in the University of Western Australia, spent three months in Greece, visiting the principal sites and studying especially archaic sculpture in local museums. Through the courtesy of the Director of the French School he spent a week at the French excavation-house on Delos.

Miss Winifred Lamb, Keeper of the Classical Antiquities in the Fitzwilliam Museum, Cambridge, was again readmitted as a student, and paid two visits to Greece. In the autumn of 1928 she carried out a trial-excavation at Methymna in Lesbos, and, returning in 1929, spent a short time assisting at Mr. Heurtley's excavation at Sarátsi in Macedonia; and then went again to Lesbos, where she began the systematic uncovering of an important prehistoric

site at Pyrgoi Thermés, the campaign lasting from April to early June. Reports on these two excavations in Lesbos appear below.

Mr. J. Emrys Lloyd, B.A., King's College, Cambridge, holding the School Studentship and the John Reginald Smith Research Studentship from his college, reached Athens early in December, after seven weeks' study in Munich. His subject for research was Athens in the age of Peisistratos and contemporary archaic sculpture and vases in relation to the art of that period. In addition to travelling in the Peloponnese he visited Crete, and in April visited many of the Cyclades, Lesbos, Chios and Samos, and returned to England at the end of May.

Miss Armorel Nance, formerly a student at the Slade School, spent three months in Greece, studying stone-carving in Minoan and Mycenaean art, and the technique of archaic Greek sculpture, visiting for these purposes the chief sites and museums on the Greek mainland and in Crete.

Mr. H. G. G. Payne, B.A., Christ Church, Oxford, Director-elect of the School, and holding a grant from the funds of the Macmillan Studentship, reached Greece on April 16th and stayed till late in July. He spent most of the next six weeks working in the Candia Museum and at the Villa Ariadne on local Geometric pottery, and in particular on the pottery from the tombs at Zafer Papoura, with the aim of combining into one report the vases found there many years ago by Sir Arthur Evans with the material from his own excavations of 1927. After a short journey early in May to Eleutherna, Arkhadi, Preveli and other places in central and southern Crete, he proceeded to Eleutherna to carry out the trial-excavations described below. On his return to Athens early in July he was initiated by the Director into the administrative details of his future post, and left for a journey in the Peloponnese, where he visited Corinth and some sites in N.-W. Arcadia; and returned to England at the end of July.

Mr. C. A. Ralegh Radford, B.A., Exeter College, Oxford, was readmitted as a student, and after spending three weeks in Italy, working in the museums of Rome, Naples and Arezzo, reached Greece early in March. He assisted Mr. Heurtley throughout his excavations in Macedonia, and travelled in Thessaly and Crete. In May he undertook a journey in N.-E. Italy and Jugoslavia, visiting museums at Trieste, Zara, Split, Sarajevo, Ljubljana, Belgrade, and a few ancient sites, to continue his study of the civilisation of the latest Bronze Age and early Iron Age, and its relations with Italy and the lands north of the Aegean; incidentally he endeavoured to isolate the culture of the Celtic-Gaulish peoples who invaded Greece in the third century B.C.

The following students spent less than three months in Greece :—

Mr. W. K. C. Guthrie, B.A., Trinity College, Cambridge, Craven Student, after working for three months in Vienna on the unpublished epigraphical material of the *Tituli Asiae Minoris* at the Austrian Archaeological Institute, joined Professor Calder's expedition into Phrygia, where they worked with Afium-Kara-Hissar as centre. As, however, Professor Calder had to return to

England after three weeks, Mr. Guthrie came to Athens for the rest of the early summer, and spent most of his stay in travelling, visiting Thessaly, N. Greece, the Peloponnese and Crete.

Mr. H. W. Jacobs, B.A., Wadham College, Oxford, was readmitted, and spent five weeks in Greece, studying Ionian and other archaic and fifth-century sculpture in the museums of Athens, Corinth, Olympia, Delphi, Chalkis and Samos.

Mr. Glyn Jones, of the Faculty of Fine Arts at the British School at Rome, spent part of the summer in Greece, including a tour in the Peloponnese.

Professor T. Le Roux, of the University of Cape Town, South Africa, spent a short time at the School in December, and visited the Argolid and Crete.

Miss A. E. Lindsell, Newnham College, Cambridge, Warden of Bedford College House, London, spent two months in Greece. While in Athens she studied topography and classical botany. She visited among other ancient sites Delos, Delphi, Olympia and the Argolid, making progress with her study of flowers in Greek art and literature.

Mr. H. W. Parke, B.A., Wadham College, Oxford, Craven Fellow, after studying at Munich in the winter, spent five weeks in Greece, working in the Epigraphical Museum, and also visited the Peloponnese, Delphi and Samos. His main subject of study was Greek military history in the fourth century B.C. and later.

Mr. and Mrs. J. D. S. Pendlebury were readmitted, and in the autumn of 1928 assisted Mr. Heurtley at Salonika in working over the finds from his excavations of the previous spring in Chalcidice. During the winter they were in Egypt, attached to the Egypt Exploration Society's expedition to Armaut and Tell el-'Amarnah. In early April they cruised in the Aegean, visiting many of the Cyclades and also Lesbos, Chios and Samos; in May they visited Crete, where they stayed a few days at the Villa Ariadne, and travelled to Eleutherna and back by the south coast to Knossos, and later visited Rhodes. Mr. Pendlebury collected illustrations for his forthcoming catalogue of Egyptian objects found in the Aegean, and Mrs. Pendlebury was making a comparative study of the Aegean finds of the Bronze Age in Egypt and those on the mainland, in Rhodes and in Crete.

Mr. R. Syme, B.A., Fellow of Trinity College, Oxford, and Derby Scholar, came from the British School at Rome in May, and studied military history and topography during his stay of two months in Greece. After travelling in the Peloponnese with Mr. Guthrie he visited Central Greece and Thessaly, and then went to Samos, whence he crossed to Scalanova, and from there proceeded to Ephesus and Smyrna; and finally went to Constantinople by way of Chios, Mytilene and Dedeagatch, and spent a fortnight in Roumania before returning to England.

Mr. T. Erskine Wright, B.A., Fellow of Queen's College, Oxford, likewise a

student at the British School at Rome, spent April and May in Greece, to gain a background for the study and teaching of Greek literature. In addition to visiting the principal sites in Attica, he travelled through N. Greece and the Peloponnese, and made a short journey in Crete.

The following were also accommodated in the Hostel on various occasions in the course of the session :—Professor and Mrs. B. Ashmole, Dr. G. F. Hill, Mr. W. Hogarth, Mr. R. W. Hutchinson, and Mr. G. A. D. Tait. The Clarke Student, Mr. R. E. Latham (Balliol College, Oxford), who visited Greece on one of the Hellenic Travellers' cruises, also spent one night in the Hostel.

Visitors.—Among those who visited the School during the session were the following :—Dr. Alexander Aiken, of Johannesburg, Mrs. Alexander, Miss B. Burton-Brown, Mr. and Mrs. L. D. Caskey, Miss E. Guest, Mr. Jan H. Hofmeyr, late Administrator of the Transvaal, Mr. C. R. Jury, Mr. and Mrs. R. A. Maclean, the Rev. E. Iliff Robson, Miss Sloan, Miss F. Melian Stawell, Sir Aurel Stein, the Rev. Herbert Stowell, Sir Edgar and Miss Wigram, Mr. Roland Wilkins, Mr. J. B. Willans; and, among old students, Professor Scutt, of Melbourne, Mr. and Mrs. C. T. Seltman, and Mr. D. C. Macgregor. A few parties of undergraduates also called, and obtained helpful information with a view to travelling in Greece; these included Mr. S. Chapman (Trinity College, Cambridge), Mr. G. J. Cross (New College, Oxford), and Mr. P. N. Williams (King's College, Cambridge).

Members of two Hellenic Travellers' Cruises visiting Athens found time to call at the School, and the Director and Mrs. Woodward had the pleasure of entertaining, among others, Miss Keith, Mr. Sydney Kitson, Hon. Sec. R.I.B.A., Mr. Arnold and Lady Mabel Lunn, Canon G. C. Richards, Canon and Mrs. Rogers, Mr. Malcolm Robertson, the President of St. John's College, Cambridge and Mrs. Sikes, Miss Tanner, Mr. Robert Temperley, Mr. and Mrs. H. S. Watson, and Canon W. A. Wigram, to whom the School is once more indebted for organising collections among the Hellenic Travellers in aid of the School, with gratifying results.

Publications.—Volume XXVIII of the *Annual* was duly issued to subscribers and others in the spring of this year; as its contents were foreshadowed in the last Report, attention need not be drawn to them again here. Vol. XXIX is in preparation, and will contain, among other contributions, a further instalment of inscriptions from Sparta, by the Director; four Hellenistic decrees from the site are being published by him in collaboration with M. Louis Robert, of the French School at Athens; Mrs. Woodward contributes an account of the numerous archaic terracottas from the Chalkioikos Sanctuary. Mr. Heurtley continues his series of reports on his excavations in Macedonia, and Mr. Payne publishes the important finds, mostly of Geometric pottery, from tombs at Zafer Papoura, near Knossos, of which mention has been made above.

The appearance of the long-awaited final account of the excavations at

The Sanctuary of Artemis Orthia, promised for the date of the Hellenic Society's Jubilee celebrations in June, had unfortunately to be postponed; but it is hoped that the improvements made possible by this respite will have more than compensated for the disappointment caused. The Committee record their cordial gratitude to the Council of the Hellenic Society, who have undertaken the publication.

Attention may also be drawn to the publication of Miss Lamb's admirable work on *Greek and Roman Bronzes*, much of which was written whilst she was a student of the School in the last two sessions.

Excavations.—The Director's intention of excavating the Hyperteleatic Sanctuary in S.-E. Laconia could not be carried out owing to the pressure of other duties, for his presence was required in Athens until after the middle of April, and his journey to Berlin occupied the rest of the month. In May, at Sparta, he found that his whole time was required for work in the museum, and in June he had to go to Crete. It is hoped, nevertheless, that this promising site, for which the permit was duly secured, will not be omitted from the future programme of the School.

The other activities of the School in the field of excavation are represented by Mr. Heurtley's campaigns on two prehistoric sites in Macedonia, Miss Lamb's excavations in Lesbos and Mr. Payne's trial-work at Eleutherna in Crete, of which the excavators' own reports follow. To them is appended an account of the work of exploration, conservation and restoration carried out by Sir Arthur Evans at Knossos.

Prehistoric Sites in Macedonia.—I. The Toumba of Saratsé, in the Lankada basin, about 20 kilometres north of Salonika, on the Serres road. The Periods represented were:—A, Early Bronze Age (deposit about 4 metres deep); B, Middle Bronze Age (deposit about 5 m. deep); C, Late Bronze Age (deposit about 4 m. deep); and D, Early Iron Age (deposit about 3 m. deep). Period A is characterised by black-polished and other pottery of the Anatolian type familiar from Vardaróftsa, Hagios Mamas and other Macedonian sites (it also contained a fragmentary 'sauce-boat' in black-polished ware and an ear-ring of thin gold wire); Period B by the appearance of a local variety of incised (B_3) ware; Period C by a few matt-painted sherds (C_2) and much Mycenaean (L.H. III*b*); Period D by the usual Macedonian Iron Age types. The site was apparently abandoned before the fifth century B.C., since not a single Hellenic or Hellenistic sherd was found.

In general, the history of the Toumba seems to be parallel to that of the rest of Central Macedonia and Chalcidice, but it escaped the invasions which affected these two areas at various times. The only external influence, in fact, which found its way into this valley was the Mycenaean, and the Bronze Age passed into the Iron Age without any break of continuity.

II. The Toumba of Kritsaná, on the west coast of Chalcidice about six

kilometres south of Epanomi, consisted almost entirely of an early Bronze Age (Period A) deposit, with an average depth of five metres. Black-polished ware of the Anatolian class was the rule, but in the lowest metre painted Neolithic pottery corresponding to Thessalian B3δ ware, with a few B3α and some B1 ware, formed about 75 per cent. of the sherds. The inference is that the earlier Neolithic population, which at Hagios Mamas was displaced by the Anatolian settlers, here continued to live side by side with them for a considerable time. It is actually only at two metres below the surface that the Neolithic sherds cease. The excavation, therefore, confirms the evidence from Hagios Mamas and Várdino, that, before the arrival of the Anatolians (which for various reasons may be placed at some date about 3000 B.C.), there was a Neolithic population spread over Macedonia, using pottery almost identical with that of the 2nd Thessalian Period.

Two blades of obsidian were found here, the first examples hitherto known from Macedonia.

The party consisted of the Assistant-Director and Mrs. Heurtley, Mr. C. A. Ralegh Radford, who was present throughout, and Miss W. Lamb, Mr. O. Davies, Miss Benton and Mr. G. A. D. Tait, who were present for shorter periods. The excavations lasted from March 11th to April 13th.

Excavations in Lesbos.—I. At Methymna (Mólivo). A fortnight's trial-excavation was conducted last autumn by Miss Lamb in the unoccupied land north of the modern town. This proved that the area in question had been occupied from the seventh century B.C. to some stage in the Roman period, and suggested that the occupation might go back to the ninth century. It gave additional evidence of the longevity of bucchero wares, which, on this site, were either plain or decorated with stamped or incised patterns. Unfortunately, only one sherd of Corinthian, and one ill-preserved sherd of an unidentifiable East Greek ware gave contact with other districts in the archaic period. Moreover, the soil is shallow, and so disturbed that no stratification is practicable; the same is said to be true of the part of the site under the modern town. In the circumstances, further excavation was considered inadvisable, and the chief find remains a pretty bronze statuette of Eros, of Hellenistic date.

II. Thermi. The prehistoric settlement of Thermi lies on the east coast of Lesbos, north of Mytilene. Excavations were here carried out by Miss Lamb and Mr. Hutchinson from April 5th to June 1st: Miss Horner and Miss Burne of Newnham College, Mr. Tait, and Mlle. Haspels of the French School and the University of Utrecht came for shorter periods and gave invaluable help.

Thermi is the first prehistoric site to be identified and excavated in the island. As was expected, the civilisation was closely allied to that of Troy and Yortan: whether it was a colony of Troy is uncertain owing to the absence of the characteristically Trojan face-urns.

Ceramic evidence shews three periods at Thermi: architectural evidence

distinguishes five (or four, if the last is regarded as the reconstruction of the last but one). The site seems to have been occupied by 3000 B.C. and to have been abandoned before 2000, since the pottery can be linked up with that of the first city of Troy and with the first but not the second stage of the second city. None of the vases are wheel-made, but the presence of red wares in the lowest stratum together with the black wares of Troy I prove that the use of the potter's oven must go further back in this part of the world than was conjectured.

The three ceramic periods of Thermi can be called the first, intermediate and second. To the first belong (i) fine vases of soft, black, polished ware; (ii) coarse vases of hard-baked red ware. The black ware often shews traces of having been made on a mould: it is usually decorated with ribbed, rippled and incised decoration, though painted decoration came in towards the close of the period. The pottery of the intermediate period is marked by the increased popularity of painted decoration, the decrease of black ware, and the frequency of the 'horned tubular handle.' To the last period belong fine wares with grey, red or yellow slip, often polished, and coarse wares, not greatly changed from the coarse wares of Period I.

It is to this, the third phase of development, that the fourth and fifth towns belong, oriented differently from the other three. All five towns are, however, remarkable for the many and conspicuous hearths in the various houses,composed of several superimposed layers of stones, pebbles, closely-fitted potsherds and ashes. Ovens also occur. No houses of the megaron type have yet been found, but the end of an apparently apsidal building of the intermediate period awaits further investigation.

Among the small finds, the terracottas deserve special mention. Some wear fringed and patterned dresses and necklaces: one is interesting owing to the affinities suggested by its upraised arms. Bone tools were common, stone tools rare. A few bronze or copper objects were found within the settlement even in the lowest stratum; and a bronze hoard in a neighbouring field appears to be contemporary with the later stages of Thermi.

Eleutherna.—The excavations conducted by Mr. Payne at Eleutherna began on June 10th and ended on July 1st. Miss M. Hartley assisted throughout the work, and Mr. W. Hogarth during the latter part. The Director was present for most of the first week. The number of workmen employed never exceeded twelve, and Jannis Katsarakis, of Palaikastro, who first worked for the School twenty-five years ago, proved an efficient foreman.

Trials were made on the terraces on the eastern and western slopes of the Acropolis, and at its north end. The terraces on the east are, on the whole, wider and better preserved than those on the west, and it is here that ancient remains are most plentiful. The most striking of these is an oblong building (about seven metres by six) constructed of massive dressed blocks, which stands well above the surface of the ground, a short distance above the stream-bed, on the north-east side. This building was cleared to the foundations, and,

contrary to expectations, proved to be of the late Roman period. The tiled floor was well preserved in one corner at the level of the door, which stands at the north end. The finds here consisted of Roman and Byzantine pottery, several fragments of marble bowls (mostly of rough workmanship) and a piece of Byzantine architectural ornament in limestone. The building was probably a tower, part of a system of fortifications. It contained three burials, at different levels, but all close to foundation-level, and all of one period, in all probability Byzantine; these certainly had no connection with the original purpose of the building. Immediately to the west of this tower a massive wall can be traced for nineteen metres from north to south; the upper courses, which are a later addition, resemble the tower in material and style, the lower are of rather smaller blocks and more careful workmanship, and probably belong to the Hellenistic period. The height of the wall, when excavated to its foundations, was about three and a half metres. Further trials revealed other walls situated, like the tower, to the east of this, and apparently also of late date. Below a threshing-floor near by there is a Roman villa, part of the pavement of which we uncovered.

Further south, at a rather higher level, several large terraces were explored, revealing remains of buildings in various places, almost all Roman. The bulk of the earlier finds in this area came from a Hellenistic grave, which contained a quantity of plain, and some decorated, pottery, of little intrinsic interest. There is no evidence that this part of the site was inhabited before the fourth century B.C. From that time onwards, however, as many scattered fragments of pottery, both local and Attic, shew, it was widely occupied, no doubt continuously down to Byzantine times, as coins and sherds indicate. Part of a Roman Doric capital was found on the surface in this neighbourhood. A little further to the north from here is a very fine Greek terrace-wall, running from north to south for at least twenty-five metres, and standing to a height of four metres (two and a half of this above the ground). The date of this wall is uncertain, but a pit sunk to the foundation-level produced, at the very bottom, a fragment of Corinthian pottery and others of black ware of the classical period; at a higher level lay Roman sherds. Most probably we should attribute the wall to the classical period.

South of this are the remains of two Byzantine churches, H. Eirene and H. Markos, near the former of which archaic inscriptions in Cretan dialect have been found by peasants; we accordingly made trials both inside and outside the church. The former were unproductive, but inside were found many Byzantine architectural fragments of good workmanship; below these, however, there were no signs of Greek occupation. At H. Markos our only find was a fragment of a late Roman inscription.

The acropolis of Eleutherna, familiar from Spratt's description, has a very slight depth of earth in most places. At the north end, where the earth becomes deeper as the ground slopes, several trials were made, following the discovery of

a Doric capital on the surface. These were rewarded by the discovery of nothing but a Roman grave, containing pottery and lumps of iron; further tests in this neighbourhood, both to north and south, were entirely fruitless. The Doric capital is of limestone, and well preserved, and dates from the second quarter of the fifth century.

On the western side of the acropolis, at a place known as the Orthé Petra, where the archaic statue, now at Candia, was found, a large deposit of Geometric pottery came to light. The place was probably a necropolis, though we found no certain evidence of this. The earliest pottery was proto-Geometric (represented by several fairly complete vases), most of it was Geometric, and there were sherds of one Orientalising vase. Nearly all the local pottery was of very poor quality—the greater part unpainted, and the painted fragments, with a few exceptions, were very roughly decorated. There were, however, fragments of an interesting imported vase—a large Laconian crater of a well-known type dating from the middle of the sixth century. The upper part of one side, with one handle, has been put together; there is an exact replica from Etruria in the Louvre (*C.V.A.* Louvre, iii. D, c, Pl. 2, 7). This is apparently the first Laconian vase to be found in Crete. A few Corinthian sherds were also found here. A small fourth-century deposit, which yielded coins and terracottas, was separated from the earlier fragments by a wall which must belong to the early archaic period. This neighbourhood had been tested by the late Dr. Petroulakis, then Epimeletes at Rethymno, who seems, however, to have missed the area which contained the Greek material.

The finest remains of the Greek city are the terrace-walls about a hundred yards north of this spot. Here the walls can be traced for about forty-five metres, and in places are preserved over four metres high. They are well built of large, carefully dressed blocks, and doubtless belong to the classical period. The earliest pottery found by them was Attic of the fifth century. In one place the wall had twice been patched in the Roman period. In addition to their function as terrace-walls they probably also served as fortifications.

Two Hellenistic graves in the late cemetery north-west of the acropolis yielded merely a number of unpainted vases.

It will be seen from these results that there seems little if any possibility of the site justifying a second campaign.

Knossos.—Sir Arthur Evans has kindly supplied the following report :—
'My campaign at Knossos this year, though largely concerned with works of conservation and reconstitution, has not only added wholly new materials for our knowledge of the hitherto somewhat ill-defined eastern borders of the Palace, but has been productive of a series of stratigraphic results of the first importance. A good example of the reconstructive work is a small columnar chamber above a pillar-basement bordering the south Propylaeum. It seems to have served a ritual function, and its northern entrance stands in relation to an

important deposit of pottery of L.M. I*a* date, including part of a votive clay bull. The roofing over of five of the west Magazines has fulfilled an ardent wish of the late Ephor, Dr. Xanthoudides. The work, moreover, has been rendered more complete by our mender's skilful piecing together of many additional fragments of the great pithoi. At the same time, elements such as the existing remains of door-jambs and column-bases have been worked into the cement restoration of parts of the floors of two of the great Halls above. On the north-west, the small columnar lustral area connected with the Minoan Goddess in her Chthonic aspect, and with stairs leading down into the bosom of the earth, has been rescued from its parlous condition, the columns have been replaced and the whole roofed over so as to protect its fine gypsum casing. The sombre colours of the fallen plaster, some of them imitating a dark speckled stone, have also been reproduced on the walls.

'A second column-base and parts of the supporting-walls of the adjoining N.-E. Portico have also been restored, and the upper terrace of the Portico over the northern entrance on that side has been reconstituted. It is proposed to replace on its back wall, as a reminiscence of the "Vapheio" reliefs that once decorated it, the noble head of a charging bull in painted plaster. Some idea of the original magnificence of this approach may thus be conveyed.

'All the elements of a postern gate above the Eastern Bastion have now been made out and partially reconstituted. The imposing Bastion itself, the N.-E. corner of which was in a ruinous condition, has been fully restored by Mr. Piet De Jong, though the work proved a long and serious undertaking. The descending runnel beside its stairs, with its parabolic curves—an extraordinary anticipating of modern hydraulic knowledge—has been traced to the borders of what was clearly a tank, now destroyed, in all probability used for laundry purposes.

'The most outstanding discoveries on the terrace-level above are a verandah bordering the "Court of the Stone Spout" on the north, and an East Portico to the north-west of the Domestic Quarter, that must have provided an agreeable open-air retreat and belvedere from the neighbouring closed areas. The eastern light-well of the "Hall of the Double Axes" proved to have a doorway on its south side, communicating with stairs leading down to the "Corridor of the Labyrinth Fresco."

'Among stratigraphical evidence secured by exploration below various pavements may be recorded sherds which give a fresh contact with Egypt in *ca.* 1900 B.C. and remains of an early stage in the history of fresco-painting, represented by a repetition of yellow patterns laid on to a dark surface by a sponge—a simple form of 'nature printing' that was to be the forerunner of the "Marine Style."

'The reproduction of the great "Shield Fresco" in the loggia opposite the Grand Staircase has been completed, and in the "Hall of the Double Axes" below, where remains of a similar spiral band appear, without the painted

shields across it, Monsieur Gilliéron has, at my suggestion, executed in zinc painted replicas of two of the actual shields that according to every probability originally hung there, as in the Megaron of Odysseus. In the first section of the Hall, impressions on fallen stucco as well as charred remains have actually preserved a record of a wooden throne, with a canopy supported by fluted columns, beside which the shields were suspended.'

The Library.—The past session has again been marked by satisfactory progress, and a welcome increase in the annual grant has enabled certain important publications to be acquired. A serious question, to be faced in the near future, is the provision of further space, especially for the Periodicals, as the extensive shelving erected for them out of the Hasluck Bequest in 1923 is already almost full to overflowing.

The accessions for 1928–29 numbered 225 (as compared with 281, which included 83 volumes given by the Chairman, in the previous session); of these some 40 were pamphlets and 48 bound volumes of periodicals. The list of principal purchases, excluding works in continuation, contains Filow-Schkorpil, *Die archaische Nekropole von Trebenischte;* Giesecke, *Italia Numismatica;* Layard, *Monuments of Nineveh;* Levi, *Terrecotte figurate del Museo Nazionale di Napoli;* Loewy, *Polygnot; Meisterwerke der Glyptothek König Ludwigs* I (*Festschrift für Paul Wolters*); Pharmakovsky, *Archäol. Mittheilungen aus Russ. Sammlungen*, I.; Rumpf, *Chalkidische Vasen;* Pottier, *Délégation en Perse*, vol. xiii. (Pottery from Susa); Praschniker, *Parthenonstudien.* Another 300 prints of sculpture in the Arndt-Amelung series of *Einzelaufnahmen* have also been acquired, bringing it up to date.

The books presented again form a high proportion of the year's accessions, and include, apart from those presented by their authors, Schede, *Meisterwerke der Türkischen Museen*, I (Mr. C. Eddy); F. W. Hasluck, *Christianity and Islam* (Mrs. Hasluck); *Corpus Vasorum, France*, Fasc. 6, and *Pays Bas*, Fasc. 1 (Miss Lamb); Turrill, *Plant Life in the Balkans* (Miss A. Lindsell); R. Byron, *The Byzantine Achievement;* Durham, *Some Tribal Origins in Albania*, etc.; Ἠπειρωτικὰ Χρονικά, and other works (Dr. W. Miller); *Letters of Gertrude Bell* (Miss H. Negreponte); Ducati, *L'Arte Etrusca* (Mr. C. A. Ralegh Radford); Pârvan, *Dacia* (Engl. transl.) (Mr. G. A. D. Tait); Van Egmont, *Travels*, and Ramsay, *Asianic Elements in Greek Civilisation* (Professor W. J. Woodhouse); other donors of books and pamphlets include Mr. O. Davies, Miss E. Cooper, Mr. R. W. Hutchinson, Miss Hutton, Dr. J. G. Milne, Madame Lambros, the Director and the Assistant-Director.

The following authors have kindly given copies of their recent works:—Professor J. D. Beazley, *Corpus Vasorum, Great Britain*, Fasc. 3, and *Greek Vases in Poland;* Mr. S. Casson, *Preliminary Report on the Excavations in the Hippodrome at Constantinople;* Messrs. F. Chapouthier and J. Charbonneaux, *Fouilles de Mallia*, I; M. Deffner, Ὁδοιπορικαὶ Ἐντυπώσεις ἀπὸ δυτικὴν Κρήτην; Sir Arthur Evans, *The Shaft-Graves and Bee-Hive Tombs of Mycenae;* E. H.

Freshfield, *Procheiros Nomos;* R. W. Hutchinson, *A Century of Exploration at Nineveh* (with R. Campbell Thompson); J. U. Powell, *New Chapters in Greek Literature*, II; D. Randall MacIver, *The Etruscans*, and *Italy before the Romans;* Miss G. M. A. Richter, *The Sculpture and Sculptors of the Greeks;* Professor D. S. Robertson, *A Handbook of Greek and Roman Architecture.* The following authors have given copies of their recent pamphlets and shorter articles:—Dr. J. K. Fotheringham, Dr. P. Gossler, Mrs. Hasluck, Dr. G. F. Hill, Mr. R. W. Hutchinson, Mr. A. L. McMullen, Professor J. L. Myres, Mr. H. Pirie-Gordon, Professor H. J. W. Tillyard, and the Assistant-Director.

The thanks of the Committee are also hereby tendered to the following institutions for gifts of books, pamphlets or reports:—The Trustees of the British Museum; the Cambridge University Press; the Governments of India and Malta; the French Ministry of Instruction and Fine Arts; the American School of Classical Studies at Athens; the American Academy in Rome; the Literary Society of Lund; the Committee for the Publication of the History of Chios (through Mr. D. P. Petrococchino); and Messrs. Macmillan & Co.

To Mr. Charles B. Eddy, Chairman of the Refugee Settlement Commission, the School is much indebted for a generous offer, which he hopes to carry out in the near future, to present a collection of books dealing with Greek Law, in various aspects, which will undoubtedly place the Library of the School in a foremost position among the foreign Schools in Athens for the study of this subject.

Captain C. E. Turle, R.N., lately in command of the British Naval Mission to Greece, has rendered a most valuable and appropriate service to the Finlay Library by arranging and calendaring the Hastings Papers which are preserved together with the Finlay archives of the War of Independence. For this further proof of Captain Turle's active interest in the welfare of the School, the Committee beg to tender him their sincerest thanks.

The School Property and Premises.—The principal event of the session was the erection of mosquito-proof wire-netting on all the doors and windows of the Director's house and of the Hostel. This measure, rendered advisable by the serious epidemic of Dengue fever which attacked all the servants in both houses in the summer vacation of 1928, and Mr. Heurtley at the beginning of the past session, should effectively secure the dwellers in both buildings against any recurrence of this epidemic, as well as against malaria, and adds greatly to the comfort indoors on summer evenings. Considering the ensuing benefits to health, and taking into account the large number of doors and windows thus protected, the Committee feel sure that the cost (£240 in all) cannot be regarded as extravagant.

During the summer of 1929 much of the external wood-work of both houses has been repainted, and some internal distempering done. Some of the Hostel chimney-stacks, which threatened to collapse, have also been rebuilt. An expensive undertaking, which will be necessary in the near future—but details

of likely cost are not yet available—is the re-wiring, to some extent, of both houses, in connection with the higher voltage of the new electric current now being gradually supplied to the city of Athens. Apart from the installation of the necessary new meters to the Director's house, this work had not been put in hand by the end of the session.

An improvement calling for mention, as it represents the outcome of some thirty years' agitation by the British and American Schools, is the remaking of the lower road (Alopekis St.) outside the School premises. This task was at length taken in hand by the Municipal authorities in the spring of 1929, and the familiar mud-pools outside the gate have been done away with. It remains to be seen whether the level of the School drive and entrance-gate will still have to be raised to prevent flooding in the rainy season.

There is little to report concerning the garden, in which, as far as the shortage of water allows, the new gardener has done excellent work, and the garden was looking at its best for our visitors in the spring.

The Villa Ariadne.—Certain necessary repairs to the roof of the Villa, which leaked seriously in wet weather, were undertaken in the winter; the sanitary arrangements have been made more satisfactory, the boundary-wall on the west rebuilt, and the external painting was put in hand in the summer. Some decayed internal wood-work in door- and window-frames was satisfactorily replaced with cement, on Mr. De Jong's suggestion.

Acknowledgments.—Grateful acknowledgment is again recorded here of the constant courtesy and helpfulness of Dr. Kourouniotis and the other officials of the Greek Archaeological Service, both in Athens and the provinces. The local representatives in Salonika, Lesbos and Crete deserve the cordial thanks of the School for their assistance. A particular expression of thanks is here tendered to Professor J. Daskalakis, Epimeletes at Rethymno, for many kindnesses received by the Director and by Mr. Payne in connection with the work at Eleutherna. It need hardly be added that our cordial relations continue with our colleagues of the other foreign Schools. The only change to report is the departure of Professor Ernst Buschor, who is leaving the German School, to succeed Geheimrat Paul Wolters at Munich. The Director wishes to take this opportunity of expressing simultaneously the regret of the British School at the departure of Professor Buschor from Athens, and their thanks for his unfailing help to students, as well as to the Director and Assistant-Director, and to record their appreciation of his many stimulating lectures and earnest devotion to learning. His successor's name was not officially known when this Report was drawn up.

It is a pleasure to record once again our indebtedness to the British Minister and other members of the Legation for constant support and help, and on the occasion of the transfer of Sir Percy Loraine to his new appointment in Egypt, the School respectfully offers him its congratulations and good wishes, and its cordial thanks for all he has done for it. Our thanks are also tendered to the

British Consul-General and the British Vice-Consul at Salonika, especially on behalf of the Assistant-Director and Mr. O. Davies. For hospitality and other services rendered to Mr. Davies on his journeys in Greece and Jugo-Slavia the following are also asked to accept the sincere thanks of the School :—The Staff of the Anglo-Greek Magnesite Co., especially Mr. Millett, the Manager, at Catunia; Mr. Stowell, at Afrati, and Mr. Hutchins, at Yerakini; and the Staff of the Selection Trust Co., especially Mr. Howie, the Manager, at Mitrovica, Mr. Wydler-Hollis, at Raska, and Mr. Rougier, at Kratovo. Thanks are also offered to Dr. and Mrs. Cassapi, of Psychro, in Crete, and to Dr. and Mrs. Zesimopoulos, of Methone in Messenia, for hospitality to Miss Hartley on her travels. Mr. G. L. Bailey and his staff at the Lake Copais Company's head-quarters have again earned our warmest thanks for hospitality to students visiting the Copais district.

Several donors have earned the thanks of the School for generous gifts of sherds to the collection of specimen-sherds at the Hostel, which is under the special charge of Mr. Heurtley. On his behalf thanks are tendered to the following :—The Palestine Museum, for a collection of representative pieces; Dr. H. H. von der Osten, of the University of Chicago, for specimens from Alishan in Cappadocia; Mr. A. L. F. Smith, for sherds and obsidian from Mesopotamia; Dr. Louis Clark, of the Cambridge Ethnological Museum, for sherds from Hungary and Poland; and Messrs. O. Davies, R. W. Hutchinson and C. A. Ralegh Radford, and Miss Lamb, for sherds from various sites. Thanks are due also to Mr. J. Penoyre, formerly Secretary to the School, for his generous gift of a prismatic compass for use at Knossos.

Several visitors have enjoyed the use of the School tennis-court, including Captain G. H. D'O. Lyon and Commander Symonds-Tayler of the newly-arrived British Naval Mission, Wing-Commander Edmonds and Commander De Pass of the outgoing Mission, the Rev. P. Usher and Colonel Corfe; a party of officers was invited from the Mediterranean Fleet on its visit in January, and enjoyed a full afternoon's play.

Address presented by the British School at Athens to the Archaeological Institute of the German Empire, on the occasion of the Centenary Celebrations, April 1929.

ΑΓΑΘΗΙ ΤΥΧΗΙ

Γεωργίου βασιλεύοντος ἔτει δεκάτωι ἐνάτωι· μηνὸς Γαμηλιῶνος, ἀγορᾶι κυρίαι τῶν θιασωτῶν. Ἔδοξε τῆι Ἀθήνησιν Βρεττανικῆι ἀρχαιολογικῆι σχολῆι· γνώμη τῶν προστατῶν· Ἐπειδὴ ἡ ἐν Βερολίνωι σύνοδος τῶν Ἀθηναϊστῶν φιλαρχαίων ἑκατὸν ἔτη ἤδη διατελεῖ μετὰ πάσης προθυμίας ἐπιμέλειαν ποιουμένη τῶν περὶ τὴν ἀρχαιότητα σπουδῶν καὶ εὔχρηστον ἑαυτὴν διὰ παντὸς παρεχομένη τοῖς ἁπανταχοῦ ταῖς τοιαύταις σπουδαῖς σχολάζουσιν· ὅπως ἂν οὖν καὶ οἱ θιασῶται φαίνωνται τιμῶντες τοὺς τοιούτους τῶν ἀνδρῶν καὶ χάριτας ἀξίας ἀποδιδόντες· τύχηι τῆι ἀγαθῆι· δεδόχθαι τοῖς θιασώταις ἐπαινέσαι τὴν ἐν Βερολίνωι σύνοδον τῶν Ἀθηναϊστῶν φιλαρχαίων ἀρετῆς ἕνεκα καὶ καλοκαγαθίας καὶ στεφανῶσαι αὐτὴν θαλλοῦ στεφάνωι· εὔξασθαι δὲ καὶ ὑπὲρ τῆς εἰς τὸ

λοιπὸν διαμονῆς καὶ εὐτυχίας τῆς συνόδου· ἀποστεῖλαι δὲ καὶ τὸν σχολάρχην πρεσβευτήν, ὅστις ἀφικόμενος εἰς Βερολῖνον ἐν τῇι ἀχθησομένηι ἑορτῇι ἀναδώσει ἀντίγραφον τοῦ ψηφίσματος τοῦδε καὶ αὐτὸς διαλεχθήσεται ἀκολούθως τοῖς ἐν αὐτῶι κατακεχωρισμένοις καὶ συνησθήσεται τῇι συνόδωι ἐπὶ τοῖς καλῶς διαπεπραγμένοις.

Finance.—The Revenue Account for the year shews a debit balance of £177 16*s.* as compared with a similar balance of £149 10*s.* 7*d.* for the preceding year. Annual Subscriptions have increased from £900 to £905, but expenses of maintenance of both House and Hostel are substantially higher. The special but very necessary expenditure of £237 on mosquito netting has been all charged to this year's account, otherwise a small surplus would have been shown.

The proceeds of the sale of land, £2,500, were invested early in the financial year, and a full year's income therefrom is incorporated in the accounts.

The total deficit on Revenue Account for the last three years amounts to nearly £800. Attention is again urgently drawn to the need of further financial support, without which it will be impossible for the School to perform efficiently its many important duties.

The following motion, proposed by MR. MACMILLAN and seconded by PROFESSOR MYRES, was put to the Meeting and carried unanimously:—

'That PRINCIPAL W. R. HALLIDAY, PROFESSORS R. M. DAWKINS and E. A. GARDNER, MR. M. N. TOD, and MISS HUTTON be re-elected members of the Committee, and that MR. V. W. YORKE be re-appointed Hon. Treasurer.'

The Chairman, SIR RENNELL RODD, then moved the adoption of the Annual Report, which was seconded by MR. W. H. WOODWARD and carried unanimously.

The Assistant-Director, MR. W. A. HEURTLEY, then spoke on 'Macedonia's place in prehistoric Europe.'

After a vote of thanks to the Chairman, the proceedings came to an end.

THE BRITISH SCHOOL AT ATHENS.

1928–1929.

RECEIPTS AND EXPENDITURE ON ACCOUNT OF REVENUE.

3RD OCTOBER, 1928, TO 2ND OCTOBER, 1929.

	£	s.	d.		£	s.	d.
Subscriptions received during the year	905	7	8	House Maintenance (as provided from London to September 30th 1929)	291	15	0
Subscriptions received for the year 1927–1928	6	4	0	Hostel Maintenance (as provided from London to September 30th 1929)	385	10	0
Government Grant	500	0	0	Salary—Director	500	0	0
Grant by the Commissioners of the Exhibition of 1851	200	0	0	Salary—Assistant Director	275	0	0
Interest on Investments to July 5th, 1929	285	0	0	Salary—Architect	100	0	0
Interest on Deposit	57	1	0	Salary—Secretary	46	13	4
Sale of Annuals (Vols. I–XXVII)	412	16	8	Salary—Assistant Secretary	10	0	0
Receipts from Hostel	137	17	0	Publication of Annual	423	3	0
Special Donations for Excavations at Sparta	4	18	0	Rent	10	0	0
Knossos Site Fund. Income from Rent and Investments	535	0	0	Printing, Postage, etc.	59	2	6
Balance being Excess of Expenditure over Receipts	177	16	0	Audit Fee	10	10	0
				Studentship: Mr. J. E. Lloyd	100	0	0
				Expenditure on Excavations:—			
				Sparta 67 2 10			
				Eleutherna 73 1 9			
					140	4	7
				Secretarial Assistance (Athens)	22	0	7
				Special Expenditure on Mosquito Netting	237	1	8
				Expenses of Director's Journey to Berlin	32	10	0
				Sundry Expenses	47	3	3
				Maintenance at Knossos:—			
				Salary and Expenses of Curator £250 0 0			
				Other Expenses 281 6 5			
					531	6	5
	£3,222	0	4		£3,222	0	4

RECEIPTS AND EXPENDITURE ON CAPITAL ACCOUNT.

3RD OCTOBER, 1928, TO 2ND OCTOBER, 1929.

	£	s.	d.		£	s.	d.
Donations as per List	279	19	3	Costs of Land Sale	77	16	4
Entrance Fees	33	12	0	Library	132	5	6
				Balance being Excess of Receipts over Expenditure	103	9	5
	£313	11	3		£313	11	3

BALANCE ACCOUNT—2ND OCTOBER, 1929.

Dr.	£	s.	d.	£	s.	d.
Subscriptions received in advance				15	11	0
Anniversary Fund				289	0	6
The Gustav Sachs Trust Fund (Income)				110	17	3
Macedonian Exploration Fund				3	11	4
Fund for the support of Anna Sokrides				12	15	0
Maintenance of Knossos Fund (Capital)				109	8	0
Knossian Tombs Fund				10	17	10
Macmillan Studentship (Income)				20	0	0
Balance, representing the assets of the School other than land, buildings and library as per last account	7,362	14	11			
Add Balance of Capital Account for the year	103	9	5			
	7,466	4	4			
Less Balance of Revenue Account for the year	177	16	0			
				7,288	8	4
				£7,860	9	3

Cr.	£	s.	d.	£	s.	d.
Investments—						
£2,000 India 3% Stock at par	2,000	0	0			
£3,000 5% War Stock at 95	2,850	0	0			
£1,200 Paris-Lyon-Méditerranée Railway at cost	1,222	13	0			
£1,300 Berlin 6% Loan at cost	1,222	3	0			
				7,294	16	0
Income Tax recoverable				107	12	0
Cash at Bank				458	1	3
				£7,860	9	3

THE GUSTAV SACHS TRUST FUND.

INCOME AND EXPENDITURE ACCOUNT.

3RD OCTOBER, 1928, TO 2ND OCTOBER, 1929.

	£	s.	d.		£	s.	d.
Balance from last Account	78	6	3	Expenses of Advertising		16	6
Interest from Investments	33	7	6	Balance to be carried forward	110	17	3
	£111	13	9		£111	13	9

THE MACEDONIAN EXPLORATION FUND.

3RD OCTOBER, 1928, TO 2ND OCTOBER, 1929.

	£	s.	d.		£	s.	d.
Balance from last Account	3	11	4	Grant (Mr. W. A. Heurtley)	50	0	0
Grant from Royal Association	50	0	0	Balance carried forward	3	11	4
	£53	11	4		£53	11	4

KNOSSIAN TOMBS FUND.

	£	s.	d.		£	s.	d.
Balance from last Account .	20	8	9	Expenditure during year . .	9	10	11
				Balance carried forward . .	10	17	10
	£20	8	9		£20	8	9

MACMILLAN STUDENTSHIP FUND.

	£	s.	d.		£	s.	d.
Interest on Investments . .	120	0	0	Grant to Mr. Payne . .	100	0	0
				Balance to be carried forward .	20	0	0
	£120	0	0		£120	0	0

Examined, checked, and found correct,
CRANSTOUN TODD & Co.,
3 Cannon St., London, E.C. 4.
Chartered Accountants.

23rd October, 1929.

DONATIONS—1928–1929.

	£	s.	d.
All Souls' College	50	0	0
Dennehy, H. G.	5	5	0
Eddy, C.	9	0	0
Hellenic Travellers :			
S.S. *Stella* and S.S. *Italia*	46	0	0
ditto ditto	29	8	3
Hellenic Travellers, Autumn Cruise	56	9	6
Low, Miss J. L.	10	0	0
Miller, W.	5	0	0
Parker, W. R.	20	0	0
Queen's College, Oxford	5	0	0
Radford, C. A. R.	6	6	0
Royal Institute of British Architects	5	5	0
Sharpe, Miss C.	2	0	0
Society of Dilettanti	25	0	0
Tod, M. N.	2	2	6
Woodhouse, Prof. W. J.	3	3	0
	£279	19	3

ANNUAL SUBSCRIPTIONS—1928–1929.

	£	s.	d.
University of Cambridge	100	0	0
University of Oxford	50	0	0
The University of Oxford (Ireland Fund)	50	0	0
McGill University	20	0	0
University of London	25	0	0
University of Toronto	20	8	8
University of Reading	2	0	0
University College, Oxford	2	2	0
University College of South Wales and Monmouthshire	2	0	0
University of Tartu (Dorpat)	2	0	0
The Society for the Promotion of Hellenic Studies	100	0	0
Society of Antiquaries	5	5	0
Brasenose College, Oxford	5	0	0
Gonville and Caius College, Cambridge	10	0	0
Corpus Christi College, Oxford	5	0	0
Emmanuel College, Cambridge	5	0	0
King's College, Cambridge	10	0	0
Magdalen College, Oxford	20	0	0
New College, Oxford	5	0	0
Newnham College, Cambridge	2	0	0
Oriel College, Oxford	10	0	0
St. John's College, Oxford	5	0	0
Pembroke College, Cambridge	5	0	0
Somerville College, Oxford	2	2	0
Trinity College, Cambridge	10	10	0
Trinity College, Oxford	2	2	0
Wadham College, Oxford	2	2	0
Balliol College Library	3	3	0
Fisher Library, Sydney	2	0	0
Leeds Library	2	0	0
London Library	2	0	0
St. John's College Library	2	0	0
Westminster School Library	1	1	0
Carlsberg Glyptothek, Copenhagen	2	0	0
Otago Institute, Dunedin	2	2	0
People's Free Reading Room and Library, Bombay	2	0	0
Glyn Mills and Company	5	5	0
City of Westminster Library	2	0	0
Archäologisches Institut der Deutscher Universität, Prague	2	0	0
Carried forward	£505	2	8

	£	s.	d.
Brought forward	505	2	8
Adcock, Prof. F. E.	2	2	0
Allen, T. W.	1	1	0
Ashby, Thomas	1	1	0
Ashmole, Prof. B.	2	2	0
Bagnani, Mrs. E. R.	1	1	0
Bailey, C.	1	1	0
Bailey, J. C.	1	0	0
Barber, E. A.	1	1	0
Barbour, G. F.	2	2	0
Barlow, Sir T.	2	2	0
Beazley, Prof. J. D.	1	1	0
Benecke, P. V. M.	2	2	0
Benton, Miss S.	2	2	0
Bevan, E. R.	1	0	0
Blomfield, Sir R. J.	2	2	0
Boethius, Dr. A.	2	2	0
Bosanquet, Miss E. P.	1	0	0
Bosanquet, Prof. R. C.	2	2	0
Bower, L.	2	2	0
Brooks, E. W.	2	0	0
Budden, Prof. L. B.	2	2	0
Buckler, W. H.	1	1	0
Burn, Miss	1	0	0
Burnett, Sir J. J.	1	1	0
Buxton, A. F.	2	0	0
Carlisle, Miss H.	1	1	0
Carr, C. T.	2	2	0
Caskey, Mrs. L. D.	2	2	0
Chance, A. F.	2	2	0
Childe, Prof. V. Gordon	2	0	0
Clarke-Thornhill, T. B.	1	0	0
Colegate, Mr. and Mrs. A.	2	2	0
Cooke, R.	1	1	0
Cooper, Miss E.	1	1	0
Courthorpe, Miss E.	2	0	0
Crowfoot, J. W.	2	2	0
Culley, Mrs. E. B.	1	1	0
Currelley, Prof. C. T.	1	1	0
Dana, R. W.	1	0	0
Dawes, Miss E. A. A.	2	2	0
Dawkins, Prof. R. M.	2	2	0
Droop, Prof. J. P.	5	5	0
Droop, Miss L.	2	2	0
Dundas, R. H.	2	0	0
Eddy, C. B.	2	0	0
Elliott, Sir F. E. H.	2	0	0
Empedocles, Mr. and Mrs.	2	2	0
Erlanger, R.	21	0	0
Eumorfopoulos, N.	2	0	0
Evans, Sir A. J.	10	0	0
Fanning, Miss F. E.	2	2	0
Farrington, B.	2	2	0
Fawcus, G. E.	2	0	0
Carried forward	625	4	8

	£	s.	d.
Brought forward	625	4	8
Fels, Willi	2	0	0
Fleming, Miss	2	0	0
Fletcher, H. M.	1	1	0
Forsdyke, E. J.	2	2	0
Forster, Prof. E. S.	1	0	0
Fort, A. J.	1	0	0
Fotheringham, J. K.	1	0	0
Furneaux, L. R.	1	0	0
Gardiner, E. Norman	2	0	0
Gardner, Prof. E. A.	2	2	0
Gardner, Prof. Percy	2	2	0
Garstang, Prof. J.	2	0	0
Gerstley, Mrs. J.	2	2	0
Giveen, R. L.	1	1	0
Gomme, A. W.	2	0	0
Gooch, G. P.	1	1	0
Goodwin, J. A.	2	2	0
Gordon, H. P.	2	2	0
Graham, A.	2	2	0
Griffith, F. Ll.	1	1	0
Haigh, P. B.	2	2	0
Hall, H. R.	1	1	0
Halliday, Miss C.	1	1	0
Halliday, Principal W. R.	1	1	0
Handcock, Dr. W.	2	2	0
Harewood, Earl of	2	2	0
Harrison, Miss C. A.	1	1	0
Hart, P.	1	1	0
Hett, Captain W. S.	2	1	0
Heurtley, W. A.	1	0	0
Hill, G. F.	2	2	0
Holroyd, Michael	2	0	0
Hopkinson, Rev. J. H.	1	1	0
Hutton, Miss C. A.	5	5	0
Impey, E.	2	2	0
Keen, H. H.	2	0	0
Kenyon, Sir F. G.	1	1	0
Knapp, Capt. C. A.	1	0	0
Lamb, Mrs. M.	10	0	0
Lamb, Miss W.	2	2	0
Lambert, Rev. L.	1	0	0
Lane, Lt.-Com. H. B.	1	1	0
Laurie, G. E.	2	2	0
Leaf, Mrs. W.	2	2	0
Leconfield, Lady	1	1	0
Letts, M.	2	0	0
Lindley, Mrs. J.	2	2	0
Lindsell, Miss A.	2	2	0
Lloyd, Miss A. M.	1	1	0
Lloyd, Miss M. E. H.	1	1	0
Lorimer, Miss H. L.	2	0	0
Low, Miss J. S.	2	2	0
Macan, R. W.	1	1	0
Carried forward	722	2	8

	£	s.	d.
Brought forward	722	2	8
MacIver, D. R.	10	0	0
Macmillan, G. A.	50	0	0
Macmillan, W. E. F.	2	2	0
Major, Miss E. H.	2	2	0
Malcoln, Lady E.	1	1	0
Maltwood, Mr. and Mrs. J.	2	0	0
Maufe, F. B.	1	1	0
Maxwell, Miss M. W.	1	1	0
Mayor, R. J. G.	1	1	0
Melchet, Lady	2	2	0
Miller, W.	5	0	0
Milne, Mrs. J. G.	2	2	0
Milne, J. G.	1	1	0
Mitchison, Mrs.	1	0	0
O'Connell, Miss K.	2	2	0
Ormerod, Prof. H. A. and M. R.	1	1	0
Palairet, C. M.	2	0	0
Pantin, Mrs.		10	0
Pearson, Miss E. R.	2	0	0
Pennant, Hon. Alice Douglas	1	1	0
Penoyre, J. B.	2	2	0
Penrose, Dame E.	1	1	0
Perram, C. H.	2	2	0
Pesel, Miss Louisa F.	1	1	0
Petrocochino, D. P.	2	2	0
Pickard-Cambridge, A. W.	2	2	0
Piddington, J. G.	2	2	0
Pollock, Sir F.	1	1	0
Radford, Miss E.	1	1	0
Rendall, Dr. G. H.	2	0	0
Rendel, G. W.	2	2	0
Richards, Miss C. D.	2	2	0
Richter, Miss G. M. A.	2	2	0
Roberts, Prof. W. Rhys	1	1	0
Robertson, Prof. D. S.	2	0	0
Carried forward	838	10	8

	£	s.	d.
Brought forward	838	10	8
Robinson, Dr. W.	2	2	0
Rodd, Sir R.	1	1	0
Rush, Mrs.	1	0	0
Sadler, Sir M.	2	0	0
Salter, Miss H. de G.	1	1	0
Samuel, Sir H.	1	1	0
Seaman, Sir O.	1	1	0
Seebohm, H. E.	2	2	0
Seltman, C. T.	2	2	0
Shove, Miss E.	1	1	0
Sikes, E. E.	1	1	0
Sloane, Miss E. J.	2	2	0
Smith, A. H.	1	1	0
Tancock, Lt.-Col. A. C.	1	1	0
Taylor, C. F.	1	1	0
Thompson, M. S.	5	0	0
Tod, M. N.	2	0	0
Toynbee, Prof. A. J.	2	0	0
Trevelyan, Prof. G. M.	2	0	0
Tuke, Miss M. J.	1	1	0
Ure, Prof. P. N.	2	0	0
Usher, The Rev. P.	1	1	0
Vince, J. H.	1	0	0
Wace, A. J. B.	2	2	0
Walker, Mr. and Mrs. J. G.	2	2	0
Wells, J.	2	2	0
Whatley, N.	2	0	0
Whibley, Leonard	2	2	0
Wigram, The Rev. W. A.	1	1	0
Willans, J. B.	2	0	0
Wilson, Lt.-Col. H. C. B.	1	1	0
Wilson, Sir S. F.	2	0	0
Withers, Dr. P.	2	2	0
Woodhouse, Prof. W. J.	2	2	0
Woodward, A. M.	2	2	0
Woodward, W. H.	2	2	0
Yorke, V. W.	5	0	0
Total	£905	7	8

Subscriptions received during the year :—

	£	s.	d.	£	s.	d.
For 1927–1928.						
The University of Sheffield	2	2	0			
Newnham College, Cambridge	2	0	0			
Meikle, Mrs.	2	2	0			
				6	4	0
Subscriptions received in advance :—						
The University of South Wales and Monmouthshire	2	0	0			
Adcock, Prof. F. E.	2	2	0			
Burnett, Sir J. J.	1	1	0			
Carr, C. T.	2	2	0			
Haigh, H. P.	2	2	0			
Melchet, Lady	2	2	0			
Sadler, Sir M. E.	2	0	0			
Seebohm, H. E.	2	2	0			
				15	11	0

ANNUAL MEETING OF SUBSCRIBERS.

THE Annual Meeting of Subscribers to the School was held in the Rooms of the Society of Antiquaries, Burlington House, on Tuesday, November 4th, 1930, SIR HENRY HADOW in the Chair.

The Chairman of the Managing Committee, MR. GEORGE A. MACMILLAN, presented on their behalf the following Report for the Session 1929–1930 :—

The Director arrived in Greece on Nov. 7 and left on July 4. In the earlier part of the session he made expeditions into the country with a view to finding a suitable site for excavation—first to the Heraeum near Perachora, on which occasion he enjoyed the hospitality of the Director of the American School and Mrs. Rhys Carpenter at Corinth, and later to Siphnos, where he spent a week investigating sites. In March he went to Crete and spent some days at Knossos; concluded a new agreement with the tenant of the vineyard attached to the Villa Ariadne, and afterwards visited Pachyammos and other sites in Eastern Crete. In Athens he was occupied with correspondence and other duties occasioned by the illness of Dr. Mackenzie, with superintending the installation of the new electric-light current in the two houses, and with the proofs, etc. of several archaeological publications. He also gave informal instruction to students in the Museum. After going to Sparta to remove the School's excavation-equipment to Athens he went to the Heraeum of Perachora on May 2, and remained there in charge of the operations till June 16, when the campaign was closed. For the remainder of the time he was at work in the National Museum on the finds.

The Assistant-Director read a paper on the results of his work in Macedonia at the Annual Meeting at Burlington House and reached Athens on Nov. 16. In February he paid a preliminary visit to various sites in W. Macedonia, and returned to Salonika to work on the finds of the excavations of the previous spring at Saratsé and Krytsana. Early in March he spent a week in Ithaca investigating sites. From March 18 to April 30 he was engaged in excavating at Servia in Macedonia and in working at Salonika. When in Athens he rearranged certain sections of the library and the School sherd-

collection, and prepared a paper to be read at the British Association. He also made an expedition to the S. Boeotian coast, and made the ascent of Mt. Vardhousi. In July he took part in Prof. Vassits' excavations at Vinča in Jugo-Slavia, and on Aug. 15 he left Athens to superintend Sir Rennell Rodd's excavations at Ithaca.

The Curator of Knossos, who was the holder of the Macmillan Studentship for this session, arrived in Greece with Mrs. Pendlebury early in October. He and Mrs. Pendlebury made expeditions to various sites in Central and Southern Greece, accompanied the Director to Perachora and Siphnos, and after Christmas visited Greek sites in Sicily and S. Italy. In Athens he concentrated on the relations between Egypt and the Aegean in the Later Bronze Age, on which subject he read a paper at the first Open Meeting; Mrs. Pendlebury studied Mycenaean pottery with a view to ascertaining the local origins of various styles. The period from March 14 to July 8 was spent at Knossos, with the exception of a few days taken for a trip to Eastern Crete. At Knossos the curator spent the greater part of his time in supervising, under Sir Arthur Evans' direction, the excavations and reconstructions at the Palace, but was also able to prepare a preliminary report on the year's excavations, to make progress with the important task of arranging and relabelling the collection of pottery at Knossos, and to begin the preparation of a guide to the Palace.

Students.—Mr. O. Davies, B.A., Exeter College, Oxford [now Lecturer in Classics at Belfast University], returned to Greece to continue his study of mining in the ancient world. As in previous sessions he visited a number of sites on the mainland as well as in Crete and the other islands (Siphnos, Keos, Naxos, etc.), and was present at Mr. Heurtley's excavations at Servia in Macedonia.

Mr. G. D. Hake, M.A., F.R.I.B.A., Headmaster of the School of Architecture of the Royal West of England Academy, Bristol, was the first holder of the Bursary offered by the Royal Institute of British Architects. Accompanied by Mrs. Hake he spent a month in Greece in the spring and made Athens his headquarters for a study of Greek buildings, but also visited sites in Attica, the Argolid and Delphi.

Mr. N. G. L. Hammond, B.A., Gonville and Caius College, Cambridge, holder of the Sandys Studentship [now Fellow and Tutor of Clare College, Cambridge], arrived in Athens on Nov. 1 after spending two months in Vienna. His work in Athens was mainly on the ancient evidence for Epirote topography. Before leaving for Epirus in the spring he visited Doris, N. Phokis, and a large number of sites in Central Greece, as well as the Argolid and Western Macedonia. Early in April he went to Epirus and Albania for an eight-weeks' tour, and returned to visit the excavations at Perachora for a few days, and to travel round the Peloponnese. He then returned to Epirus for a further period of five weeks, visited Crete and Delphi, and left for England early in August.

Miss M. Hartley, B.A., Girton College, Cambridge, holding grants from the Committee of the School, the Cambridge Craven Fund and Girton College, arrived in Greece on Feb. 8. In February and March she spent about five weeks in Crete working at Knossos on Geometric and other post-Minoan pottery from the Palace and the neighbourhood of the Palace; this pottery she will shortly publish in the *Annual*. She was present throughout the excavations at Perachora, and after the excavations returned to Crete to complete her studies at Knossos. She left Greece early in July.

Miss W. Lamb, M.A., Keeper of the Classical Antiquities in the Fitzwilliam Museum, came to Athens in October to work on the finds from her excavations at Thermi in Mytilene. After working in the Museum at Constantinople she visited Chanak and the site of Troy with a view to studying the relations between Troy and prehistoric Mytilene. She returned to England in December and came back to Greece in March; from March 31 to June 30 she continued the excavation of Thermi (see below); she left Athens in mid-July.

Miss M. L. Macdonnell, M.A., Lecturer in Classics at Queen's University, Kingston, Canada, reached Athens in May and left at the end of June. She devoted herself to a general study of sites and monuments and visited Central Greece, the Peloponnese and Crete.

Mr. C. M. Robertson, son of the Regius Professor of Greek at Cambridge, was in Greece from the beginning of January to the end of June. In Athens he devoted a considerable part of his time to the study of Greek vases, distinguishing himself by finding a fragment of the Euphronios cup by a cave north of the Acropolis and fitting this on to the vase in the National Museum. He travelled in Central and Southern Greece and visited Skyros, Euboea and Crete before coming to the excavations at Perachora, where he remained for the greater part of their duration.

Miss O. Rowe, B.A., Somerville College, Oxford, and holder of the School Studentship, arrived in Greece in January and left in June. She undertook to study Dedalic sculpture, travelled in Central and Southern Greece, went to Crete and Skyros, and was present for the first fortnight of the excavations at Perachora.

Mr. T. C. Skeat, holder of the Sachs Studentship, arrived in Greece on Oct. 26. He spent the first three months in studying the pottery of the period between the Mycenaean and Geometric Ages, which was his special subject for research, and also the pottery from Marmariani in the National Museum. In February he worked with Mr. Heurtley in Macedonia, and later returned to Macedonia to assist Mr. Heurtley in his excavations. He was present for a considerable part of the time at Perachora, and later visited Nauplia, Sparta and Volo to study the Geometric pottery in the Museums. He left Greece on July 1 and returned early in September to assist Mr. Heurtley in the excavations at Ithaca.

Mr. C. R. Wason, holder of the Walston Studentship, arrived in Greece on Nov. 1. He spent the earlier part of the session studying early Greek gems,

and in December visited Egypt, Syria and Cyprus. He assisted Miss Lamb in her excavations at Thermi in the early summer, and thence made a tour in Asia Minor. He afterwards spent some time in Roumania, and finally visited the excavations at Ithaca in the latter part of August.

Mr. R. Jellicoe, Student of the British School at Rome, spent a short time in Greece in the spring.

Among others who stayed at the Hostel were Prof. and Mrs. Ernest Gardner, Mr. C. A. R. Radford, Mr. R. W. Hutchinson, Mr. A. Preston, Lecturer in Classics at Bishops University, Ontario, Mr. and Mrs. Davidson of Victoria, B.C., Dr. and Mrs. W. Miller, who spent some weeks there in the autumn, Mr. R. Cullen, Mr. Apedaile of Exeter College, Oxford, the Clarke student, and several undergraduates from Oxford and Cambridge.

(Held over from last year's Report.) Professor H. J. W. Tillyard visited Greece in September, 1929. In addition to working at Athens he spent some time in Rhodes and Patmos, staying for a month in the latter island to study the MSS. containing Byzantine neumes in the Monastery of St. John. He wishes to express his indebtedness to Professor Kougeas for an introduction to the Abbot, and also to H.B.M. Consul at Rhodes.

Open Meetings.—Two Open Meetings were held. At the first, on March 13, Mr. Pendlebury read a paper on the relations between Egypt and the Aegean in the Late Bronze Age (since published in the *Journal of Egyptian Archæology*); at the second, on April 11, Sir Arthur Evans spoke on 'New Evidence regarding Life beyond Death and the Worship of the Mother and Child in Minoan Religion.'

Publications.—The publication of Vol. XXIX of the *Annual* has been delayed till the autumn of this year. The final account of the School's excavations at the Sanctuary of Artemis Orthia at Sparta, the publication of which, as mentioned in last year's Report, was generously undertaken by the Hellenic Society, appeared in January, and has been generally recognised as a notable addition to archaeological literature. Mr. J. D. S. Pendlebury's *Aegyptiaca* was also published early in the year.

Excavations.—A new site, the Heraeum of Perachora, was chosen for the School excavation; the Assistant-Director and Miss Lamb continued their work in Macedonia and Mytilene respectively; Sir Arthur Evans excavated at Knossos and continued the reconstruction of the Palace; Mr. S. Casson made a trial in a cave on Mt. Pangaeum. Sir Rennell Rodd's excavations at Ithaca are in progress at the time of writing.

The Heraeum of Perachora lies on a promontory some nine miles west of the Isthmus of Corinth, almost exactly due north of the site of ancient Corinth. In ancient times it was part of the territory of Corinth, and is mentioned by ancient authors as a fortified place of some strategic importance. This northern part of the territory of Corinth has yielded rich spoils to local

'antiquaries' in past years, but has never been the scene of scientific excavations; the Heraeum recommended itself as a convenient starting-point for the exploration of the district as being a compact and fairly small site, and one which was certain to produce archaic Greek remains. The excavation began on May 5 and ended on June 15. Between 30 and 40 workmen were employed for the greater part of the time; the students who accompanied the Director, for varying periods, were Miss Hartley, Miss Rowe, Messrs. Robertson, Skeat, and Hammond. Mr. de Jong was present for the last three weeks of the excavation, in which time he surveyed the site, planned the buildings and made some drawings of the finds.

The Heraeum, which was an oracle-temple, gave its name to the promontory on which it stood. Its position has not yet been discovered with certainty, though a vast deposit of votives which inscriptions prove to have been dedicated to Hera was found. These seem to have been kept in a special building, a kind of Treasury, and not in the temple itself. By a small natural harbour some little distance from this building the remains of a temple, which goes back to the early fifth century, came to light. The foundations, and in places the walls, of this temple are well preserved, the chief, and very serious, damage which they have suffered being the complete destruction of the east front. The temple was some 60 feet long and 28 feet 6 inches wide; the greater part of the foundations, and the existing walls, are built of limestone; the tiles, however, were of marble. The building had no external colonnade; the internal division into nave and aisles was made by stone walls, not by columns. At the back there is a compartment almost filled by a square base which obviously once supported the cult-statue. In front by the base is a foundation stone for an isolated column (pieces of which were found in the immediate neighbourhood), in position somewhat analogous to that of the isolated column in the nave of the temple at Bassae.

A considerable part of the western gable was recovered; also blocks from the tympanum, and triglyphs. The earliest object found in the temple was a sixth-century bronze gorgon, from a vase. The series of votive terracottas goes back to the very beginning of the fifth century, and this seems a likely date for the building of the temple. Next to the temple, and likewise just above the small harbour, was a large fifth-century building which time did not permit of excavating completely; at present two arms of a finely built wall have been more or less cleared. It would seem that they may be the enclosing walls of an agora.

The principal finds were made in the votive deposit already mentioned. They include a vast quantity of Protocorinthian and Corinthian pottery, in which are many fine pieces decorated with animals. Imported pieces include Attic, Boeotian, Laconian, Parian and Rhodian sherds, and fragments of at least one bucchero vase which is certainly Etruscan and not East Greek. There are some ivory fibulae, circular seals, and couchant animals, which recall ivories found at the Sanctuary of Artemis Orthia. In addition there are a

number of terracotta figurines, some engraved gems (geometric and archaic), a fine small ivory head of classical style, gold pins, sixty Egyptian scarabs and beads, and an interesting series of bronzes dating from the early seventh century to the fifth. The finest of these is a Herakles over 5 inches high, striding with one arm swung behind his head, the other outstretched—a work of about 500 B.C.

There remains a considerable area of the town to be excavated, and there must be a necropolis in the neighbourhood. A second campaign next year will clearly be necessary; if funds are forthcoming, it is hoped also that a beginning might be made with another site such as Peiraion or Oinoe, which lie north-east of the Heraeum. The finds have been further described, with illustrations, in *The Times* of Aug. 20.

Servia (Macedonia).—The Assistant-Director reports as follows:—The site lies on the south bank of the Haliakmon, at the point where the modern road from Macedonia to Thessaly and South Greece crosses the river by the iron bridge built by the Turks in 1912.

The object of the expedition was to elucidate certain problems of the Thessalian and Macedonian Neolithic Age; and to obtain, if possible, precise stratigraphic information about certain black-polished and painted pottery which makes its appearance in Thessaly at the end of the First Neolithic Period, and which has usually been attributed to invaders from Central Europe. The evidence supplied by the excavation goes to shew that this attribution is justified. There are three phases in the history of the site. During the first phase it was occupied by people who used pottery identical with that of the First Thessalian Period, and who were presumably Thessalians. (These people remained until the site was finally deserted in the Early Bronze Age.) The second phase was ushered in by an extensive conflagration, with which the appearance of the new black-polished pottery, of a new class of painted pottery, of pottery with incised spirals, coincides. The simultaneous appearance of these novelties, and their strongly Danubian character, places it beyond reasonable doubt that the desired evidence for the earliest incursion of Northerners into Greece has been obtained. The most interesting find was perhaps a complete skeleton, buried in a crouched position in a round hole, sunk through the debris of one of the burnt houses. Above it lay a thin layer of ashes and several broken vases of the new kind, some blackened by fire. It thus seems probable that the burial is that of one of the invaders. The skeleton has been cut out with its surrounding earth and transported to the Museum at Salonika, where it awaits examination by an anthropologist. Close upon the heels of these Northern invaders came Early Bronze Age people from Macedonia, bringing with them their characteristic pottery. Their arrival and settlement constitutes the third phase in the history of the site.

Mr. Heurtley was assisted by Miss H. L. Lorimer, Mr. C. A. Ralegh Radford, Mr. O. Davies, Mr. G. A. D. Tait and Mr. T. C. Skeat.

Thermi (Mytilene).—Miss W. Lamb's excavation of the prehistoric settlement of Thermi, near Mytilene, begun last season, was continued this year from March 31st to June 30th. Miss Nine Six was present as long as work was in progress: Miss Haspels, of the French School, Mr. Hutchinson, Mr. Burton Brown, Mr. Cullen and Mr. Wason for shorter periods.

The nature of the site, with its successive villages (presumably five), and its pottery (closely akin to that of Troy I and II*a*), was described in the last Annual Report. This year's work not only confirmed but also amplified last year's conclusions. One area has now been dug to virgin soil: another has been cleared to expose the uppermost city: two, comparatively small, await investigation. The different treatment of different areas is imposed by the fact that the land belongs to three proprietors.

The Buildings.—The uppermost city was surrounded by a wall of which only the foundations remain. These consist of irregular blocks, mainly of schist, and have a width of 2·5 m. to 1·2 m. At one point they are crossed by a paved road belonging to a later date than the settlement, and contemporary with certain foundations which were brought to light in outlying test pits to the south and south-west.

The commonest type of house at all periods was long and narrow, with its entrance in the narrow end. In the uppermost city, however, and possibly in the lower cities, a type with semi-apsidal ends is found. The positions of doors are marked either by door sockets or by long slabs of schist. Streets, roughly paved with stones, or large cobbles from the shore, divided the houses into groups. Hearths and ovens, composed of layers of stones, sherds, burnt clay and ashes, were, as last year, a feature of the site.

It is now certain that the earlier towns extended much further to the north than their successors: we have still to ascertain if their southern boundaries coincide.

The Finds.—While last year's pottery illustrated the sequence of wares the vases found this year are so numerous that they form a very useful series of forms. Bowls, jugs, pyxides, mugs, tripod cooking-pots, lids are among the commonest shapes, and we can now trace their modification at different periods.

About thirty-five figurines, whole or fragmentary, shew a surprising variety of type. Three were of stone, the rest terracotta. One of the most interesting finds was a crucible for melting copper which was discovered in one of the lowest strata, proving that copper was worked in the first period of the settlement: another form of crucible was found at a higher level. Among the copper objects the majority are pins, but a 'flame-shaped' knife, like those found at Troy, should be mentioned. The most interesting of the stone objects, apart from the figurines, are (1) a bowl of white limestone; (2) a fragment of a marble bowl probably Cycladic; (3) a series of polished stone implements.

A Cave on Mt. Pangaeum was excavated by Mr. S. Casson in May. It proved to contain some prehistoric and Roman remains.

Sir Arthur Evans' Excavation at Knossos.—Sir Arthur Evans has kindly supplied the following account of the Excavation and Reconstitution at Knossos:

'It had been my intention, with the exception of some supplementary investigations of comparatively limited scope, to devote this year's work at Knossos to carrying out certain important works of reconstruction and reconstitution in the "Throne Room" area and the Northern Entrance system. Remains were struck, however, which entailed a serious campaign of excavation, comparable, indeed, with those of the earliest years. The whole work was of over four months' duration, from the beginning of February to after the end of June, and for much of the time as many as 80 workmen were employed.

'The new developments involved the whole Western border and approach, and led to the discovery of an outer enceinte wall, with the new entrance system on that side. The new outer wall, extending from the North border of the Theatral Area to the Western Entrance and including an old Acropolis Quarter as well as the whole West Court, dates back to a proto-palatial Age, about 2100 B.C. The two paved Causeways crossing the Court were found to have originally converged on an outer entrance leading, beyond the enceinte wall, to the ramp of a hitherto unknown Minoan Roadway running due west and with suppporting walls on either side. Near this entrance, inside the enceinte, were brought to light two new "Koulouras" or round walled refuse-pits arranged in a regular row, west of that already known. Inside these and a neighbouring basement lay a mass of sherds illustrating the finest Middle Minoan Ceramic stage and supplying new types of the greatest interest.

'The new "Koulouras" were themselves built over large houses of the preceding M.M. I*a* Period, with their brilliantly painted stucco pavements and stairs and a whole Corpus of M.M. I*a* ceramic types. Mr. Pendlebury, the new Curator of Knossos, who gave me valuable assistance throughout, is preparing a full account of these houses and their contents for the *Annual*.

'In a room of a later house, north of these, full equipment for the domestic snake-cult has been discovered. There is an extraordinary variety of vessels of unique shapes, with snakes coiling up them. A hitherto unexampled monument of the Minoan religion has been suppleid by the finding of a movable stone altar, which had apparently drifted from the sanctuary hall to the north-west of the palace. It bears the sacral horns and double axes in relief; they were originally coated with painted stucco.

'Amongst other important finds is a part of a painted Vase, of a M.M. II Class with a graffito inscription of a hitherto unknown class presenting about 20 linear characters, which, as it dates from about 1800 B.C., is of special importance in the history of the Script.

'Meanwhile, thanks to the structural work of Mr. Piet de Jong and the artistic skill of Monsieur E. Gilliéron, fils, the works of restoration and reconstruction on which I had embarked have been successfully completed. The "Room of the Throne" and its Antechamber have not only been roofed over,

but the upper system, including a clere-story and lantern, has been reconstructed in such a way that the ancient system of lighting has been recovered. The original effect of the ceremonial chamber has been further attained by the restoration of the frescoes of three more of the guardian Griffins. The Western terrace above the Northern Entrance passage has not only been completed to its original level, but part of the portico has been reconstructed and a section of the great painted relief shewing an olive tree and the forepart of the charging bull has been replaced in replica, so that to visitors approaching the Palace from the north must appear much as it did to the first Greek intruders.'

The Library.—The number of additions which have been made to the Library is a very satisfactory feature of the past session. Thanks to a generous donation from the Chairman, the School was able to acquire a number of important works which it would have been impossible to buy from the Library Grant; some of these were very fortunately acquired at the sale of the library of the late E. P. Warren in October. The total number of accessions is 240 (as compared with 225 in the previous session), of which 72 were pamphlets and 27 bound periodicals.

The list of principal purchases includes: Buschor, *Tondächer der Akropolis;* Bulle, *Der Schöne Mensch*, ed. 2; Jacobsthal, *Ornamente Griechischer Vasen;* Richter, *Catalogue of Bronzes in the Metropolitan Museum;* v. Lücken, *Parthenonskulpturen; Festschrift James Loeb;* Hall, *Civilisation of Greece in the Bronze Age;* Mühlenstein, *Kunst der Etrusker;* Gräf-Langlotz, *Akropolisvasen*, brought up to date; parts of the new Greek survey of Greece.

The principal gifts were: *Corpus Vasorum* (13 vols.); Frazer, *Ovid, Fasti;* Blümel, *Katalog der griechischen Skulpturen in Berlin;* Fairbanks, *Vases in Boston;* Platner-Ashby, *Topographical Dictionary of Ancient Rome;* Babelon, *Camées Antiques;* Hekler, *Sammlung Antiker Skulpturen in Budapest;* Weickert, *Archaische Architektur*, and other books (all given by the Chairman). Mylonas, *Olynthus, the Neolithic Settlement* (Mr. A. J. B. Wace); Fossing, *Cameos and Gems in the Thorvaldsen Museum* (Mr. E. J. Forsdyke). Runciman, *Emperor Romanus Lecapenus;* Buckler, *Anna Comnena;* Bury, *Selected Essays;* and many other books and pamphlets (Mr. W. Miller). Frankfort and others, *Mural Painting at El Amarneh;* Marconi, *Agrigento* (Mr. and Mrs. Pendlebury). Childe, *The Most Ancient East* (Miss W. Lamb). Halliday, *Greek Questions of Plutarch* (Miss M. Hartley). Other books were given by Miss E. Cooper, Mr. O. Davies, Miss Hutton, Dr. J. G. Milne, Miss W. Lamb, Mr. A. M. Woodward, and the Assistant-Director.

The following authors presented copies of their works:—Prof. K. Amantos, Ἀνέκδοτα Ἔγγραφα περὶ Ῥήγα Βελεστινλῆ; Prof. A. S. Arvanitopoulos, Γραπταὶ Στῆλαι Δημητριάδος-Παγασῶν; Prof. B. Ashmole, *Ancient Marbles at Ince;* Prof. J. D. Beazley, *Attic Black-Figure, a Sketch;* Dr. C. Blegen, *Zygouries;* Prof. Rhys Carpenter, *The Sculpture of the Nike Parapet;* Mr. E. Freshfield, *Manual of Byzantine Law*, Vol. VI; Prof. A. D. Keramopoullos,

'Αρχαϊκὴ Νεκρόπολις τοῦ Τρεμπένιστε; Miss W. Lamb, *Greek and Roman Bronzes;* Mr. A. W. Lawrence, *Classical Sculpture;* Prof. J. L. Myres, *Who were the Greeks?*; Mr. J. D. S. Pendlebury, *Aegyptiaca;* Prof. H. J. W. Tillyard, *Agathocles* and *Byzantine Music and Hymnology*. Further, shorter works were presented by the following:—Prof. K. Amantos, the Assistant-Director, Mr. R. P. Austin, Dr. F. Bölte, Dr. C. Bonner, Dr. J. Dragatsis, Dr. J. K. Fotheringham, Dr. H. Frankfort, Dr. J. Gennadius, Dr. M. Grbić, Dr. P. Kastriotis, Prof. A. D. Keramopoullos, Dr. K. Kourouniotis, Dr. W. Miller, Prof. M. Nilsson, Prof. N. G. Pappadakis, Prof. D. M. Robinson, Dr. A. Rowe, Prof. B. Schweitzer.

Finally, the Committee wishes to thank the following institutions for gifts of books, pamphlets and reports:—the Trustees of the British Museum; the Cambridge University Press; the Hellenic Society; the Governments of India and Malta; the French Ministry of Instruction and Fine Arts; the Greek Ministry of Education; the American School of Classical Studies in Athens; the American Academy in Rome; the Literary Society of Lund; the University of Upsala; the University of Michigan; the Royal Society of Alexandria; the Editors of *Acta Archaeologica* (Copenhagen); Σύλλογος πρὸς Διάδοσιν ὠφελίμων Βιβλίων; the Editor of the Birmingham *Daily Post;* the Director of the Boulé Library, Dr. P. Kalogeropoulos; the University of California.

The library at the Villa Ariadne has received a number of important acquisitions as a result of a generous donation from Sir Arthur Evans.

The School Property and Premises.—The principal event of the session was the re-wiring of both houses for the installation of the new electric-light current, the necessity for which was referred to in the last Report (pp. 271–272). In the early winter of last year the light supplied by the old current was weaker even than that of preceding years, and it was imperative that the new current (which will inevitably supersede the old throughout Athens within the next few years) should be installed without delay. The new current being of much higher voltage than the old, the whole installation in both houses had to be renewed, and the new wires enclosed in metal pipes. The supervision of this operation and the making of the necessary arrangements took a very considerable part of the Director's time in the winter. The work was begun immediately after Christmas and finally completed about six weeks later. The total cost, including the new fittings of all kinds, was approximately £120. The property in Athens required but little other expenditure, except for repainting some of the external woodwork as a protective measure.

The property at Knossos was examined by the School architect in the early spring and was found to need little in the way of immediate repairs. Sir Arthur Evans has, however, made a number of improvements at the 'Taverna,' including the installation of a bath-room and the overhauling and re-tiling of the roof. A satisfactory feature in connection with the property

at Knossos has been the conclusion of a new agreement with the tenant of the vineyard, Mr. A. Apladas. Although he has now been given the lease of this property at a very considerable reduction of the original rent (£80 p.a. instead of £160) on condition of the repayment of a part of his arrears of rent, the School is now ensured, by a third-party guarantee, of a regular income from this source for the next three years.

Miss Lamb undertook to supervise work in the garden for the session, and to her, as to Dr. and Mrs. Miller, are due thanks for a gift of money for buying plants.

Certain rearrangements have been effected in the Hostel. The collections have now been concentrated as far as possible in the room on the left of the Entrance-hall, and a considerable amount of working-space has thus been gained in the Library.

Acknowledgements.—The School wishes once more to express its gratitude for constant helpfulness to Dr. K. Kourouniotis, and to the Greek archaeological service in general; and in the fields of excavation especially to the Ephor and Epimelete of the Corinthia, Dr. Bertos and Mr. Joacheim, to Dr. Pelekides at Salonika, to Mr. Paraskevaïdes at Mytilene, and to the Mayor of Ithaca, Mr. K. Petalas. Mr. S. C. Atchley of the British Legation, and Dr. W. Miller, have again given valuable assistance on several occasions; and we have also to express our thanks to Mr. O. Harvey, First Secretary of the Legation, to H.B.M. Consul, Mr. W. Hough and to H.B.M. Vice-Consul at Candia. To Canon W. A. Wigram the School is again particularly indebted for raising a substantial contribution from the Hellenic Travellers, many of whom paid a visit to the School. Mr. S. Prezanis, Director of the Industrial Bank, most generously placed his house at Siphnos at the disposal of the Director and Mr. and Mrs. Pendlebury on the occasion of their visit in December; Dr. J. Dragatsis and Mr. A. Kosmis gave much most valuable advice and information about the island.

A most interesting addition to the possessions of the School is a pair of very fine water-colours of Greek landscapes by Edward Lear, which were bought in London and presented by the Chairman. One is a view of Canea, the other Gardhiki in the south of Thessaly. Sir Arthur Evans very generously presented the School with a tent for the expedition to Perachora, and Miss Lamb has kindly given three chairs for the small room on the left of the Entrance-Hall in the Hostel, which is now in use as an annex to the Library. Mrs. Walter Leaf has given a portrait of the late Dr. Walter Leaf, which now hangs in the dining-room. Captain G. H. D'O. Lyon and members of the Naval Mission who used the tennis court in the summer have presented the School with a new tennis-net, which was badly needed. Dr. W. Miller presented a series of casts of Gattilusi coins, and the Cypriot Government a collection of sherds.

Obituary.—The School has lost by death during the session four old and valued friends.

Prof. F. Halbherr was a pioneer in a field in which the School took a particular interest, and his death comes as a deeply-felt blow to Cretan studies.

Dr. H. R. Hall stayed at the School on several occasions, and identified himself closely with its researches in Aegean archaeology.

In Dr. P. Kastriotis, Director of the National Museum at Athens, and Dr. B. Leonardos, Director of the Epigraphic Museum, the School has lost two esteemed colleagues, whose kindness in making accessible the museums under their charge will be remembered with gratitude by many generations of its students.

Finance.—The Revenue Account for the year shows a credit balance of £508 0*s.* 8*d.* as compared with a debit balance of £177 16*s.* for the preceding year. Annual Subscriptions have increased from £905 to £984, the latter figure being the highest point yet touched in the history of the School. It is much to be hoped that they will pass the four-figure mark in the current year. Expenses of House and Hostel Maintenance show a welcome diminution of nearly £170, special expenditure on new installations is less by £127, while the receipts from the Hostel have increased by £92. The Receipts and Expenditure in respect of the Annual make an unduly favourable showing, as much of the expenditure incurred in the production of the forthcoming number can only be brought in to the accounts of the current year.

As was indicated in last year's report, the total deficit for the three years, 1927, 1928 and 1929 was no less than £800, and if the surplus shown in this year's accounts, which is in part fictitious, be deducted therefrom, the financial position is distinctly worse than it was four years ago. Further financial support is therefore as urgently needed as ever if a high standard of usefulness and efficiency is to be maintained.

The following motion, proposed by PROFESSOR E. A. GARDNER and seconded by MR. PENOYRE, was put to the Meeting and carried unanimously :—

'That SIR ARTHUR EVANS, MR. A. J. B. WACE and MISS W. LAMB be re-elected members of the Committee, and that MR. V. W. YORKE be re-appointed Hon. Treasurer.'

The Chairman, SIR HENRY HADOW, then moved the adoption of the Annual Report, which was seconded by DR. HILL and carried unanimously.

The Director, MR. H. G. G. PAYNE, then spoke on 'Excavation at the Heraeum of Perachora.'

After a vote of thanks to the Chairman, the proceedings came to an end.

THE BRITISH SCHOOL AT ATHENS.

1929–1930.

RECEIPTS AND EXPENDITURE ON ACCOUNT OF REVENUE.

	£	s.	d.
Subscriptions received during the year	984	7	11
Subscriptions received for the year 1928–1929	52	10	0
Government Grant	500	0	0
Grant by the Commissioners of the Exhibition of 1851	200	0	0
Interest on Investments	360	0	0
Interest on Deposit	5	2	5
Sale of Annuals (Vols. I–XXVIII)	390	16	10
Receipts from Hostel	229	16	8
Special Donations for Excavations at Perachora	390	14	7
Knossos Site Fund. Income from Rent and Investments	528	0	0
	£3,641	8	5

	£	s.	d.	£	s.	d.
House Maintenance (as provided from London to September 30th, 1930)				191	17	8
Special Installation, Electric Light				110	14	4
Hostel Maintenance (as provided from London to September 30th, 1930)				317	1	11
Salary—Director				500	0	0
Salary—Assistant Director				275	0	0
Salary—Architect				100	0	0
Salary—Secretary				40	0	0
Salary—Assistant Secretary				10	0	0
Publication of Annual				265	11	5
Rent				10	0	0
Printing, Postage, etc.				72	6	5
Audit Fee				10	10	0
Studentship: Miss Rowe				100	0	0
Expenditure on Excavations:—						
Sparta	30	12	5			
Perachora	358	7	2			
				388	19	7
Secretarial Assistance (Athens)				99	6	0
Director's Travelling Allowance				50	0	0
Director's Entertainment Allowance				50	0	0
Assistant Director's Entertainment Allowance				25	0	0
Sundry Expenses				21	13	4
Maintenance at Knossos:—						
Salary and Expenses	50	0	0			
Other Expenses	220	19	11			
Expenses—Dr. Mackenzie	224	7	2			
				495	7	1
Balance being Excess of Income over Expenditure				508	0	8
				£3,641	8	5

RECEIPTS AND EXPENDITURE ON CAPITAL ACCOUNT.

3RD OCTOBER, 1929, TO 2ND OCTOBER, 1930.

	£	s.	d.		£	s.	d.
Donations as per List	274	2	9	Library	107	10	3
Entrance Fees	10	10	0	Balance being Excess of Receipts over Expenditure	177	2	6
	£284	12	9		£284	12	9

BALANCE ACCOUNT—2ND OCTOBER, 1930.

Dr.	£	s.	d.	Cr.	£	s.	d.	£	s.	d.
Subscriptions received in advance			9 7 0	Investments :—						
Anniversary Fund			289 0 6	£2,000 India 3% Stock at par	2,000	0	0			
The Gustav Sach Trust Fund (Income)			43 8 3	£3,000 5% War Stock at 95	2,850	0	0			
Macedonian Exploration Fund			3 11 4	£1,200 Paris-Lyon-Méditerranée Railway at cost	1,222	13	0			
Fund for the support of Anna Sokrides			2 5 0	£1,300 Berlin 6% Loan at cost	1,222	3	0			
Maintenance of Knossos Fund (Capital)			109 8 0					7,294	16	0
Knossian Tombs Fund			10 17 10	Income Tax Recoverable				279	10	0
Macmillan Studentship (Income)			60 0 0	Amount held by Mr. Pendlebury in respect of Knossos Library Account as per contra				24	17	6
Knossos Library Fund as per contra			24 17 6	Cash at Bank				327	3	5
Add Balance representing the assets of the School other than Land, Buildings and Library as per last account	£ 7,288	s. 8	d. 4	Cash on Deposit				600	0	0
Add Balance of Capital Account for the year	177	2	6							
			7,465 10 10							
Add Balance of Revenue Account for the year			508 0 8							
			£8,526 6 11					£8,526	6	11

THE GUSTAV SACHS TRUST FUND.

INCOME AND EXPENDITURE ACCOUNT.

3RD OCTOBER, 1929, TO 2ND OCTOBER, 1930.

	£	s.	d.		£	s.	d.
Balance from last Account .	110	17	3	Studentship	100	0	0
Interest from Investments .	33	7	6	Expenses of Advertising . .		16	6
				Balance to be carried forward .	43	8	3
	£144	4	9		£144	4	9

THE MACEDONIAN EXPLORATION FUND

3RD OCTOBER, 1929, TO 2ND OCTOBER, 1930.

	£	s.	d.		£	s.	d.
Balance from last Account .	3	11	4	Grant (W. A. Heurtley) . .	50	0	0
Grant from British Association .	50	0	0	Balance to be carried forward .	3	11	4
	£53	11	4		£53	11	4

KNOSSIAN TOMBS FUND.

	£	s.	d.		£	s.	d.
Balance from last Account .	10	17	10	Balance to be carried forward .	10	17	10

MACMILLAN STUDENTSHIP FUND.

	£	s.	d.		£	s.	d.
Balance from last Account .	20	0	0	Grant to Miss Hartley . .	60	0	0
Interest from Investments .	200	0	0	Grant to Mr. Pendlebury . .	100	0	0
				Balance to be carried forward .	60	0	0
	£220	0	0		£220	0	0

Examined, checked, and found correct,
CRANSTOUN TODD & Co.,
3 Cannon St., London, E.C. 4.
Chartered Accountants.

23rd October, 1930.

DONATIONS—1929–1930.

	£	s.	d.
All Souls' College	50	0	0
Davidson, Mr. and Mrs.	5	0	0
Encyclopedia Britannica Company	1	1	0
Goldsmiths' Company	50	0	0
Hellenic Cruises Collections	100	19	8
Macmillan, Geo. A.	25	0	0
Mashmeer, P. J.	4	0	0
Queen's College	5	0	0
Payne, H. G. G.	4	0	1
Society of Dilettanti	25	0	0
Spencer-Churchill, Col.	1	0	0
Stone, Miss	1	0	0
University Press, Liverpool	2	2	0
	£274	2	9

SPECIAL DONATIONS—1929–1930.

	£	s.	d.
Knossos Library. Sir A. Evans	50	0	0
Cyprus Excavation. Mr. Harvey Mudd	50	0	0
	£100	0	0

KNOSSOS LIBRARY FUND.

	£	s.	d.		£	s.	d.
Grant from Sir A. Evans	50	0	0	Expenditure during the year	25	2	6
				Balance to be carried forward	24	17	6
	£50	0	0		£50	0	0

CYPRUS EXCAVATION.

	£	s.	d.		£	s.	d.
Grant from Mr. Harvey Mudd	50	0	0	Grant to Mr. Davies	50	0	0

PERACHORA EXCAVATION FUND.

	£	s.	d.
Adcock, Prof. F. E.	5	0	0
All Souls' College	10	0	0
Bailey, C.	1	0	0
Bailey, J. C.	2	0	0
Balliol College, Oxford	5	0	0
Benecke, P. V. M.	2	2	0
Benton, Miss S.	1	0	0
Briggs, Miss M. G.		5	0
Burn, Miss	10	0	0
Caskey, Mrs. L. D.	2	0	0
Dawkins, Prof. R. M.	5	0	0
Dundas, R. H.	5	0	0
Empedocles, Mr. and Mrs.	4	0	0
Eumorfopoulos, N.	3	0	0
Evans, Sir A. J.	25	0	0
Farringdon, B.	5	0	0
Fleming, Miss	5	0	0
Gerstley, Mrs. J.	2	2	0
Glyn Mills and Company	5	0	0
Graham, A.	2	0	0
Gulbenkian, L. S.	100	0	0
Hett, Captain W. S.	1	1	0
Hill, G. F.	1	1	0
Hutton, Miss C. A.	5	0	0
Impey, E.	1	0	0
Jacobsthal, Prof. P.	1	0	7
Lamb, Miss W.	10	0	0
Leeds University	2	0	0
Low, Miss J. S.	10	0	0
MacIver, D. R.	5	0	0
Macmillan, G. A.	100	0	0
Mitchison, Miss N.	1	0	0
Myres, Prof. J. L.	1	1	0
Pickard-Cambridge, A. W.	5	0	0
Richards, Miss C. D.	1	1	0
Richter, Miss G. M. A.	5	0	0
Robertson, Prof. D. S.	5	5	0
Rodd, Sir R.	5	0	0
Salter, Miss H. de G.	2	2	0
Seebohm, H. E.	3	0	0
Sloane, Miss E. J.	2	2	0
Spranger, J. A.	5	0	0
Taylor, C. F.	5	0	0
Tod, M. N.	5	0	0
Ure, Prof. P. N.	1	0	0
Wace, A. J. B.	5	0	0
Whibley, Leonard	2	2	0
Woodward, A. M.	1	10	0
	£390	14	7

ANNUAL SUBSCRIPTIONS—1929–1930.

	£	s.	d.
University of Cambridge	100	0	0
University of Oxford	100	0	0
McGill University	20	0	0
University of London	25	0	0
University of Marburg	2	0	0
University of Reading	2	0	0
University of Sheffield	2	2	0
University College of South Wales and Monmouthshire	2	0	0
University of Toronto	20	10	5
University of Tartu (Dorpat)	2	0	0
Victoria University of Manchester	5	0	0
The Society for the Promotion of Hellenic Studies	100	0	0
Society of Antiquaries	5	5	0
Balliol College, Oxford	2	2	0
Brasenose College, Oxford	5	0	0
Christ Church College, Oxford	30	0	0
Corpus Christi College, Oxford	5	0	0
Emmanuel College, Cambridge	5	0	0
Gonville and Caius College, Cambridge	10	0	0
King's College, Cambridge	10	0	0
Magdalen College, Oxford	20	0	0
New College, Oxford	5	0	0
Newnham College, Cambridge	2	0	0
Oriel College, Oxford	10	0	0
Pembroke College, Cambridge	5	0	0
St. John's College, Oxford	5	0	0
Somerville College, Oxford	2	2	0
Trinity College, Cambridge	10	10	0
University College, Oxford	2	2	0
Trinity College, Oxford	2	2	0
Wadham College, Oxford	2	2	0
Balliol College Library	3	3	0
Fisher Library, Sydney	2	0	0
Leeds Library	2	0	0
London Library	2	0	0
St. John's College Library	2	0	0
Westminster School Library	1	1	0
Alleyns School	1	1	0
Museum of Fine Arts, Boston	2	0	0
Otago Institute, Dunedin	2	2	0
People's Free Reading Room and Library, Bombay	2	0	0
Royal Institute of British Architects	50	0	0
Glyn Mills and Company	5	5	0
City of Westminster Library	2	0	0
Wellcome Historical Medical Museum	1	0	0
Carried forward	£596	9	5

	£	s.	d.
Brought forward	596	9	5
Adcock, Prof. F. E.	2	2	0
Allen, T. W.	1	1	0
Ashmole, Prof. B.	2	2	0
Bailey, C.	1	1	0
Bailey, J. C.	1	0	0
Barber, E. A.	1	1	0
Barbour, G. F.	2	2	0
Barlow, Sir T.	2	2	0
Beazley, Prof. J. D.	1	1	0
Benecke, P. V. M.	2	2	0
Benton, Miss S.	2	0	0
Bevan, E. R.	1	0	0
Blomfield, Sir R. J.	2	2	0
Boethius, Dr. A.	2	2	0
Bosanquet, Miss E. P.	1	0	0
Bosanquet, Prof. R. C.	2	2	0
Bower, L.	2	2	0
Brooks, E. W.	2	0	0
Budden, Prof. L. B.	2	2	0
Burnett, Sir J. J.	1	1	0
Buxton, A. F.	2	0	0
Carlisle, Miss H.	1	1	0
Carr, C. T.	2	2	0
Caskey, Mrs. L. D.	2	2	0
Chance, A. F.	2	2	0
Childe, Prof. V. Gordon	2	2	0
Clarke-Thornhill, T. B.	1	0	0
Colegate, Mr. and Mrs. A.	2	2	0
Cooke, R.	1	1	0
Cooper, Miss E.	1	1	0
Courthorpe, Miss E.	2	0	0
Crowfoot, J. W.	2	2	0
Culley, Mrs. E. B.	1	1	0
Currelley, Prof. C. T.	1	1	0
Davidson, Mr. and Mrs.	2	0	0
Dawes, Miss E. A. S.	2	2	0
Dawkins, Prof. R. M.	2	2	0
Droop, Prof. J. P.	5	5	0
Droop, Miss L.	2	2	0
Dundas, R. H.	2	0	0
Elliott, Sir F. E. H.	2	0	0
Empedocles, Mr. and Mrs.	5	0	0
Erlanger, R.	21	0	0
Eumorfopoulos, N.	2	0	0
Evans, Sir A. J.	10	0	0
Fanning, Miss F. E.	2	2	0
Farrington, B.	2	2	0
Fawcus, G. E.	2	0	0
Fels, Willi	2	0	0
Fleming, Miss	2	0	0
Fletcher, H. M.	1	1	0
Carried forward	719	7	5

	£	s.	d.
Brought forward	719	7	5
Forsdyke, E. J.	2	2	0
Forster, Prof. E. S.	1	0	0
Fort, A. J.	1	0	0
Fotheringham, J. K.	1	0	0
Furneaux, L. R.	1	0	0
Gardiner, E. Norman	2	0	0
Gardner, Prof. E. A.	2	2	0
Gardner, Prof. Percy	2	2	0
Garstang, Prof. J.	2	0	0
Giveen, R. L.	1	1	0
Gleadow, M.	2	2	0
Gomme, A. W.	2	0	0
Gooch, G. P.	1	1	0
Goodwin, J. A.	2	2	0
Gordon, H. P.	2	2	0
Griffith, F. Ll.	1	1	0
Haigh, H. P.	2	2	0
Hall, H. R.	1	1	0
Halliday, Miss C.	1	0	0
Halliday, Principal W. R.	1	1	0
Harewood, Earl of	2	2	0
Hart, P.	1	1	0
Hett, Captain W. S.	2	0	0
Hill, G. F.	2	2	0
Holroyd, Michael	2	0	0
Hopkinson, The Rev. J. H.	1	1	0
Hutton, Miss C. A.	3	3	0
Impey, E.	2	2	0
Kean, H. H.	2	0	0
Kenyon, Sir F. G.	1	1	0
Knapp, Captain A.	1	0	0
Lamb, Mrs. M.	10	0	0
Lamb, Miss W.	2	2	0
Lambert, The Rev. L.	1	0	0
Leaf, Mrs. W.	2	2	0
Leconfield, Lady	1	1	0
Letts, M.	2	0	0
Lindley, Mrs. J.	2	2	0
Lindsell, Miss A.	2	2	0
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Lorimer, Miss H. L.	2	0	0
Low, Miss J. L.	2	2	0
Macan, R. W.	1	1	0
MacIver, D. R.	10	0	0
Macmillan, G. A.	50	0	0
Macmillan, W. E. F.	3	0	0
Major, Miss E. H.	2	2	0
Malcolm, Lady E.	1	1	0
Mayor, R. J. G.	1	1	0
Melchett, Lady	2	2	0
Metcalfe, D.	2	2	0
Carried forward	871	0	5

	£	s.	d.
Brought forward	871	0	5
Miller, W.	5	0	0
Milne, Mrs. J. G.	2	2	0
Milne, J. G.	1	1	0
Mitchison, Miss N.	1	0	0
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Pantin, Mrs.		10	6
Payne, H. G. G.	2	2	0
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Pennant, Hon. Alice Douglas	1	1	0
Penoyre, J. B.	2	2	0
Penrose, Dame E.	1	1	0
Pesel, Miss Louisa F.	1	1	0
Petrocochino, D. P.	2	2	0
Pickard-Cambridge, A. W.	2	2	0
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R. CARR BOSANQUET, M.A., 1900—1906.
R. McG. DAWKINS, M.A., 1906—1914.
A. J. B. WACE, M.A., 1914—1923.
A. M. WOODWARD, M.A., 1923—1929.
H. G. G. PAYNE, B.A., 1929— .

HONORARY STUDENTS OF THE SCHOOL.

1886—1931.

*Prof. J. B. Bury. LL.D., Litt.D., D.Litt.	King's College, Cambridge. Elected 1895.
Sir Arthur J. Evans. LL.D., D.Litt., F.R.S.	Late Keeper of the Ashmolean Museum, Oxford. Elected 1895.
Prof. J. Linton Myres. M.A., D.Sc. (Wales).	Late Fellow of Magdalen College, Oxford. Elected 1896.
Prof. Ernest Gardner. Litt.D.	Director of the School, 1887–1895. Elected 1897.
*Prof. A. van Millingen. M.A., D.D.	Professor of History at Robert College, Constantinople. Elected 1904.
*W. H. Forbes. M.A.	Late Fellow of Balliol College, Oxford. Elected 1906.
Prof. W. J. Woodhouse.	Professor in the University of Sydney. Formerly Student of the School. Elected 1908.
A. J. B. Wace. M.A.	Late Fellow of Pembroke College, Cambridge. Director of the School, 1914–1923. Elected 1912.
Prof. J. D. Beazley. M.A., Litt.D., Ph.D.	Student and Tutor of Christ Church, Oxford. Elected 1914.
*E. N. Gardiner. D.Litt.	Corpus Christi College, Oxford. Elected 1914.
Prof. R. McG. Dawkins. M.A.	Hon. Fellow of Emmanuel College, Cambridge. Director of the School, 1906–1914. Elected 1914.
F. W. Hasluck. M.A.	Late Fellow of King's College, Cambridge. Formerly Assistant Director and Librarian of the School. Elected 1915.
W. Miller. M.A.	Elected 1926.
M. N. Tod. M.A., F.B.A., O.B.E.	Fellow of Oriel College, Oxford. Elected 1929.

* Deceased.

STUDENTS OF THE SCHOOL.[1]

1886—1931.

Ernest A. Gardner. Litt.D.	Hon. Fellow of Gonville and Caius College. Vice-Chancellor (1923—26), Yates Professor of Archaeology (1896—1928) and Public Orator in the University of London. Emeritus Professor and Hon. Fellow of University College, London. Admitted 1886—87 as Cambridge and Craven University Student. Director of the School, 1887—1895. Hon. Student of the School. President of the Hellenic Society.
*David G. Hogarth. M.A., D.Litt., C.M.G.	Fellow and formerly Tutor of Magdalen College, Oxford, and first Craven Fellow. Keeper of the Ashmolean Museum, Director of the School 1897—1900. Admitted 1886—87. Re-admitted (for work in Cyprus) 1887—88.
*Rupert C. Clarke. M.A.	Exeter College, Oxford. Rector of Ellesborough, Bucks, and Rural Dean of Wendover. Admitted 1886—87.
F. H. H. Guillemard. M.A.,M.D.,F.L.S.,etc.	Gonville and Caius College, Cambridge. First University Reader in Geography. Admitted (for work in Cyprus) 1887—88.
Montague R. James. O.M., Litt.D.	Provost of Eton. Late Director of the Fitzwilliam Museum. Admitted (for work in Cyprus) 1887—88, with grant of £100 from the University, Cambridge.
R. Elsey Smith. F.R.I.B.A.	Professor of Architecture and Construction, University College, London. Appointed to Studentship of Royal Institute of British Architects, 1887—88.
R. W. Schultz Weir (R. Weir Schultz).	Admitted as Gold Medallist and Travelling Student in Architecture of the Royal Academy of Arts, 1887—88. Re-admitted 1888—89, 1889—90.
*Sidney H. Barnsley.	Admitted as Student of the Royal Academy, 1887—88. Re-admitted 1889—90, 1890—91.
J. A. R. Munro. M.A.	Rector of Lincoln College, Oxford. Admitted (for work in Cyprus) 1888—89. Re-admitted (for same purpose) 1889—90.
H. Arnold Tubbs. M.A.	Pembroke College, Oxford. Professor of Classics at University College, Auckland, N.Z. Craven University Fellow. Admitted (for work in Cyprus) 1888—89. Re-admitted (for same purpose) 1889—90.
Sir J. G. Frazer. O.M., LL.D., D.C.L.	Fellow of Trinity College, Cambridge. Admitted 1889—90.
†William Loring. M.A.	Late Fellow of King's College, Cambridge. Warden of Goldsmiths' College, New Cross. Secretary of the School, 1897—1903. Appointed to Cambridge Studentship, 1889—90. Re-admitted as Craven University Student, 1890—91, 1891—92, and 1892—93.

[1] * Before a name signifies "deceased." † Signifies "died on Active Service." For the war-service, military and otherwise, rendered by Students of the School, see Vol. XXIII, p. viii.

* Deceased. † Died of wounds, October 22nd, 1915.

W. J. Woodhouse. M.A.	Queen's College, Oxford. Professor of Greek in the University of Sydney, N.S.W. Formerly Lecturer in Ancient History and Political Philosophy at the University of St. Andrews. Appointed to Oxford Studentship, 1889—90. Re-admitted as Craven University Fellow, 1891—92 and 1892—93. Re-admitted 1908, 1921. Honorary Student of the School.
G. C. Richards. M.A.	Late Fellow of Hertford College. Canon of Durham and Professor of Greek in the University of Durham. Admitted as Craven University Fellow, 1889—90. Re-admitted 1890—91.
O. H. Parry. M.A.	Magdalen College, Oxford. Vicar of All Hallows, East India Dock. Formerly Archbishop's Missioner to the Nestorian Christians. Admitted 1889—90.
J. F. R. Stainer. M.A., B.C.L.	Magdalen College, Oxford. Admitted 1889—90.
*R.A.H.Bickford-Smith. M.A., F.S.A.	Trinity College, Cambridge. Admitted 1889—90.
*A. G. Bather. M.A.	Late Fellow of King's College, Cambridge. Late Assistant Master at Winchester College. Admitted 1889—90. Re-admitted 1891—92, on appointment to the Cambridge Studentship; 1892—93 as Prendergast Greek Student; and again, 1893—94, as Cambridge Student.
E. E. Sikes. M.A.	Fellow and Tutor of St. John's College, Cambridge. Appointed to Cambridge Studentship, 1890—91.
J. G. Milne. D.Litt.	Corpus Christi College, Oxford. Late Assistant Secretary in the Board of Education. Appointed to Oxford Studentship, 1890—91.
H. Stuart Jones. D.Litt., F.B.A.	Fellow and formerly Tutor of Trinity College, Oxford. Principal of the University College of Wales. Late Camden Professor of Ancient History in the University of Oxford. Formerly Director of the British School at Rome. Admitted as Craven University Fellow, 1890—91. Re-admitted 1892—93.
Miss Eugénie Sellers (Mrs. S. Arthur Strong). Litt.D. (Manchester), LL.D., F.S.A.	Life Fellow of Girton College, Cambridge. Late Assistant Director of the British School at Rome. Formerly Keeper of the Duke of Devonshire's Collections. Admitted 1890—91.
F. Brayne Baker. M.A.	Sometime Scholar of Christ's College, Cambridge. Assistant Master at Malvern College. Admitted 1891—92.
C. C. Inge. M.A.	Magdalen College, Oxford. Vicar of St. Giles', Oxford. Appointed 1891—92 to the Oxford Studentship.
E. F. Benson. B.A.	King's College, Cambridge. Admitted 1891—92, with grant of £100 from the Worts Fund at Cambridge; 1892—93 on appointment to the Cambridge Studentship; 1893—94 as Craven Student; and 1894—95 as Prendergast Student.
J. G. Piddington. B.A. (J. G. Smith).	Magdalen College, Oxford. Admitted 1891—92. Re-admitted 1895—96.
V. W. Yorke. M.A.	Late Fellow of King's College, Cambridge. Hon. Treasurer of the School. Admitted 1892—93. Re-admitted 1893—94.

* Deceased.

J. L. Myres. D.Sc., M.A.	Wykeham Professor of Ancient History in the University of Oxford. Formerly Fellow of Magdalen College, Oxford. Student and Tutor of Christ Church. University Lecturer in Classical Archaeology. Gladstone Professor of Greek in the University of Liverpool. Admitted 1892—93 as Craven Fellow. Re-admitted 1893—94 and 1894—95. Hon. Student of the School.
R. J. G. Mayor. M.A., C.B.	Late Fellow of King's College, Cambridge. Assistant Secretary in the Board of Education. Admitted 1892—93.
R. C. Bosanquet. M.A.	Trinity College, Cambridge. Late Professor of Classical Archaeology in the University of Liverpool. Assistant Director of the School, 1899—1900. Director 1900—1906. Admitted 1892—93. Re-admitted 1894—95. Re-admitted as Craven University Student 1895—96 and 1896—97.
Sir J. M. Cheetham. M.A., K.C.M.G.	Christ Church, Oxford. Late H.M. Envoy Extraordinary and Minister Plenipotentiary at Copenhagen. Admitted (Oxford Studentship) 1892—93.
E. R. Bevan. D.Litt., LL.D.	New College, Oxford. Admitted 1893—94.
A. F. Findlay. M.A.	Sent out as holder of Brown-Downie Fellowship by the United Presbyterian Church, Divinity Hall, Edinburgh. Admitted 1894—95.
J. G. Duncan. M.A., B.D.	Sent out from Aberdeen by the Church of Scotland. Minister of Kirkmichael, Ballindalloch, N.B. Admitted 1894—95.
J. E. Brooks. M.A.	St. Peter's College, Cambridge. Admitted 1894—95. Re-admitted as Associate 1896—97.
*H. Awdry. M.A.	New College, Oxford. Assistant Master at Wellington College. Admitted 1894—95.
Duncan Mackenzie. M.A. (Edin.), Ph.D. (Vienna).	Universities of Edinburgh and Vienna. Carnegie Fellow in History at the University of Edinburgh. Archaeological Curator at Knossos 1926—29. Admitted 1895—96. Re-admitted 1896—97, 1897—98 and 1898—99.
Archibald Paterson.	University of Edinburgh. Admitted 1895—96.
C. R. Rowland Clark.	Student of the Royal Academy. Appointed 1895—96, and re-appointed 1896—97, by the Managing Committee to an Architectural Studentship.
C. C. Edgar. B.A.	Oriel College, Oxford. Inspector of Antiquities for Lower Egypt. Admitted 1895—96, and re-admitted 1896—97 (as Craven University Fellow), 1897—98 and 1898—99.
F. R. Earp. M.A.	Late Fellow of King's College, Cambridge. Admitted 1896—97.
*F. A. C. Morrison. M.A.	Jesus College, Cambridge. Admitted (as Prendergast Greek Student) 1896—97.
H. H. West. M.A.	Formerly of Trinity College, Cambridge. Admitted 1896—97.
*Miss C. A. Hutton.	Girton College, Cambridge. Hon. Secretary of the Society for the Promotion of Hellenic Studies. Joint Editor of the *Annual*, 1906—26. Admitted 1896—97.

* Deceased.

J. G. C. Anderson. M.A.	Camden Professor of Ancient History in the University of Oxford. Formerly Fellow of Lincoln College. Student, Tutor, and sometime Senior Censor of Christ Church, Oxford. Admitted (as Craven University Fellow) 1896—97.
J. W. Crowfoot. M.A.	Brasenose College, Oxford. Director of the British School of Archaeology in Jerusalem. Late Director of Education, Sudan Government. Admitted, on appointment to the Oxford Studentship, 1896—97. Re-admitted 1897—98.
W. W. Reid. B.D.	Universities of Aberdeen and Edinburgh. Minister of the Church of Scotland, Dumbarton, N.B. Admitted, as holder of Blackie Travelling Scholarship, 1896—97.
A. E. Henderson. F.S.A., F.R.I.B.A.	Owen Jones Student of Royal Institute of British Architects, 1897—98. Admitted 1897—98. Re-admitted 1898—99, 1901—2, and 1902—3.
W. A. Curtis. D.Litt., D.D. (Edin.).	Heriot Scholar of Edinburgh University. Regius Professor of Biblical Criticism and Biblical Antiquities in the University of Edinburgh. Formerly Professor of Systematic Theology in the University of Aberdeen. Admitted 1897—98.
A. J. Spilsbury. M.A.	Queen's College, Oxford. Head Master of Wakefield Grammar School. Formerly Senior Classical Master, City of London School. Admitted 1897—98, on appointment to the Oxford Studentship.
E. B. Hoare.	Magdalen College, Oxford. Admitted 1897—98, as Architectural Student.
J. C. Lawson. M.A.	Fellow, Tutor and Lecturer of Pembroke College, Cambridge. Admitted as Craven University Student, 1898—99. Re-admitted 1899—1900.
C. D. Edmonds. M.A.	Emmanuel College, Cambridge. Assistant Master at Berkhampstead School. Formerly at Aldenham School and at Royal Naval College, Osborne. Admitted as Prendergast Student, 1898—99.
Sir John H. Marshall, Kt. C.I.E., Litt.D., F.S.A.	Scholar of King's College, Cambridge. Director-General of the Archaeological Survey of India. Admitted 1898—99. Re-admitted as Prendergast Student, 1900—1, Craven Student, 1901—2.
*Clement Gutch. M.A.	King's College, Cambridge. Lecturer at St. John's College, Cambridge. Admitted, 1898—99, on appointment to the Cambridge Studentship.
F. B. Welch. M.A.	Magdalen College, Oxford. British Representative on the Commission mixte de l'Organisation des Populations Gréco-Bulgare. Formerly Vice-Consul, Athens. Admitted as Craven University Fellow, 1898—99. Re-admitted 1899—1900.
T. D. Atkinson. F.R.I.B.A.	Surveyor to the Dean and Chapter of Ely, to the Dean and Chapter of Winchester, and to the Warden and Fellows of Winchester College. Admitted as Architectural Student, 1898—99.
J. K. Fotheringham. M.A., D.Litt.	Merton and Magdalen Colleges, Oxford. Formerly Fellow of Magdalen College, Oxford. Reader in Ancient History in the University of London. Assistant in the University Observatory, Oxford. Admitted on appointment to Oxford Studentship, 1898—99.

* Deceased.

Canon J. H. Hopkinson. M.A.	University College, Oxford. Organiser of Religious Education in the Diocese of Carlisle. Formerly Warden of Hulme Hall and Lecturer in Classical Archaeology, University of Manchester. Admitted as Craven University Fellow, 1899—1900 and 1900—1.
*Miss O. C. Köhler (Mrs. Charles Smith).	Girton College, Cambridge. Admitted 1899—1900.
D. Theodore Fyfe. F.R.I.B.A.	Surveyor to the Dean and Chapter of Chester. Master of the School of Architecture, Cambridge. Architectural Association Travelling Student, 1899. Admitted 1899—1900, on appointment to Architectural Studentship.
†K. T. Frost. M.A., F.R.G.S.	Brasenose College, Oxford. Lecturer at the Queen's University, Belfast. Admitted on appointment to the Oxford Studentship, 1900—1.
R. D. Wells. M.A., F.R.I.B.A.	Trinity College, Cambridge. Admitted on appointment to the Architectural Studentship, 1900—1.
John Penoyre. M.A., C.B.E.	Keble College, Oxford. Secretary and Librarian to the Society for the Promotion of Hellenic Studies. Secretary to the British School at Athens, 1905—1919. Admitted 1900—1. Re-admitted 1906—7, 1907—8.
Marcus N. Tod. M.A., F.B.A., O.B.E.	Fellow of Oriel College, Oxford, and University Reader in Greek Epigraphy. Craven University Fellow. Assistant-Director of the School 1902—4. Admitted on appointment to "Senior Studentship," 1901—2. Honorary Student of the School
*F. W. Hasluck. M.A.	Sometime Fellow of King's College, Cambridge. Assistant Director and Librarian of the School from 1906—1915. Admitted on appointment to Cambridge Studentship 1901—2. Re-admitted 1902—3, 1904—5, 1905—6. Honorary Student of the School.
C. Heaton Comyn. F.R.I.B.A.,M.R.San.I.	Admitted on appointment to the Architectural Studentship, 1901—2. Re-admitted 1903—4.
Miss H. L. Lorimer. M.A.	Girton College, Cambridge. Fellow of Somerville College. University Lecturer in Homeric Archaeology, Oxford. Admitted as Pfeiffer Travelling Student, 1901—2. Re-admitted 1910—11, 1921—22.
Baroness E. Rosenörn-Lehn.	Royal Holloway College, and University College, London. Admitted 1901—2.
A. P. Oppé. B.A.	New College, Oxford. Examiner in the Board of Education. Sometime Lecturer in Greek at St. Andrews University. Lecturer in Ancient History at Edinburgh University. Deputy Director and Secretary Victoria and Albert Museum. Admitted 1901—2.
W. L. H. Duckworth. M.D., Sc.D.	Fellow of Jesus College, Cambridge. University Lecturer in Physical Anthropology. Admitted 1902—3.
C. T. Currelly. M.A., F.R.G.S., F.R.S.C.	Victoria College, Toronto. Director of the Royal Ontario Museum. Formerly Assistant to Professor Flinders Petrie, under the Egypt Exploration Fund. Admitted 1902—3. Re-admitted 1903—4.
R. McG. Dawkins. M.A.	Hon. Fellow of Emmanuel College, Cambridge. Bywater Professor of Byzantine and Modern Greek Language and Literature in the University of Oxford. Director of the School from 1906—14. School Student. Admitted as Craven Student, 1902—3. Re-admitted 1903—4, 1904—5, 1905—6.

* Deceased. † Killed in action, September 4th, 1914.

E. S. Forster. M.A., F.S.A., M.B.E.	Bishop Frazer's Scholar, Oriel College, Oxford. Professor of Greek in the University of Sheffield. Formerly Assistant Lecturer in the University College of N. Wales. Admitted on appointment to the Oxford Studentship, 1902—3. Re-admitted 1903—4, with grants from the Craven Fund and Oriel College.
A. J. B. Wace. M.A.	Formerly Fellow of Pembroke College, Cambridge. Deputy Keeper in the Victoria and Albert Museum. Sometime Lecturer in Ancient History and Archaeology in the University of St. Andrews. Norton Lecturer of the American Archaeological Institute, 1923—24. Prendergast Student. Craven Student. Admitted 1902—3. Re-admitted 1903—4, 1904—12. Director of the School, 1914—23. Honorary Student of the School.
†E. W. Webster. M.A.	Fellow of Wadham College, Oxford. Taylorian Scholar in German, 1901. John Locke Scholar in Mental Philosophy 1904. Admitted 1902—3.
J. B. Fulton. A.R.I.B.A.	Soane Student. Admitted 1902—3.
E. F. Reynolds.	Admitted 1902—3.
M. Cary. D.Litt. (M. O. B. Caspari.)	Late Scholar of Corpus Christi College, Oxford. Reader in Ancient History in the University of London. University Scholar in German. Admitted 1903—4.
J. L. Stokes. B.A.	Formerly Scholar of Pembroke College, Cambridge. Librarian of Charterhouse School since 1905. Admitted (as Holder of the Prior Scholarship from Pembroke College), 1903—4.
Miss M. K. Welsh (Mrs. A. M. Daniel).	Newnham College, Cambridge. Holder of the Marion Kennedy Studentship. Admitted 1903—4.
†G. Dickins. M.A.	Fellow of St. John's College, Oxford. Craven University Fellow. Admitted 1904—5, 1905—6. Re-admitted as School Student, 1906—7. Re-admitted 1907—8, 1908—9, 1912—13.
C. C. T. Doll. M.A.	Trinity College, Cambridge. Superintending Architect at the excavations at Knossos 1905—12. Admitted 1904—5.
C. H. Hawes. M.A.	Trinity College, Cambridge. Assistant Director, Boston Museum of Fine Arts. Late Professor of Anthropology, Dartmouth College, U.S.A. Admitted 1904—5, 1908—9.
W. A. Kirkwood. M.A. (Harvard), Ph.D. (Harvard).	University College, Toronto. Registrar of Trinity College, Toronto. Admitted 1904—5.
H. J. W. Tillyard. M.A., D.Litt. (Edinburgh).	Caius College, Cambridge. Professor of Greek at University College, Cardiff. Late Reader in Russian, University of Birmingham. Formerly Lecturer in Greek, University of Edinburgh. Admitted 1904—5 as Assistant Librarian. Re-admitted 1905—6 (on appointment to Studentship), 1906—7, 1908—9. Re-admitted 1912—13.
Miss G. M. A. Richter. Litt.D.	Girton College, Cambridge. Keeper of the Department of Classical Antiquities, Metropolitan Museum of Art, New York. Admitted 1904—5.

† Killed in action, April 9th, 1917. † Died of wounds, July 17th, 1916.

J. P. Droop. M.A. — Trinity College, Cambridge. Professor of Classical Archaeology in the University of Liverpool. Late Assistant to Dr. Stein in the arrangement of his collections. Admitted 1905—6, 1906—7 (Prendergast Student), 1907—8 (School Student), 1908—9, 1910—11, 1912—13, 1913—14. Re-admitted 1921—22.

Miss M. Hamilton. M.A., D.Litt. (Mrs. L. Caskey). — University of St. Andrews. Holder of a Research Fellowship under the Carnegie Trust. Admitted 1905—6, 1906—7.

A. C. B. Brown. M.A. — Scholar of New College, Oxford. Fereday Fellow of St. John's College, Oxford. Formerly Assistant Lecturer in Classics, Manchester University. Assistant Master at Marlborough College. Admitted 1905—6.

F. Orr. — Admitted 1905—6.

R. Traquair. F.R.I.B.A. — Admitted 1905—6 (on appointment to an Architectural Studentship). Professor of Architecture, McGill University, Montreal. Re-admitted 1906—7, as Student of the Byzantine Fund.

Miss E. B. Abrahams. M.A. (Mrs. Culley). — Bedford College, London. Joint Editor of the *Annual*. Admitted 1905—6.

W. J. Farrell. M.A., M.C. — Late Fellow of Jesus College, Cambridge. Education Officer under Palestine Administration. Admitted 1906—7, 1907—8, 1908—9, 1909—10.

Walter S. George. — Travelling Student in Architecture of the Royal College of Art. Soane Medallist of Royal Institute of British Architects. Late Assistant to Architects of Imperial Delhi. Admitted 1906—7. Re-admitted 1908—9, 1909—10, as student of the Byzantine Research Fund. Re-admitted 1912—13.

T. E. Peet. M.A. — Queen's College, Oxford. Officer of Egypt Exploration Society and Professor of Egyptology in the University of Liverpool. Admitted as Craven Fellow, 1906—7, and as Pelham Student in the British School at Rome 1908—9.

A. M. Woodward. M.A. — Late Classical Demy of Magdalen College, Oxford. Lecturer in charge of the Department of Ancient History in the University of Sheffield. Director of the School, 1923—29. Assistant Director, 1909–10, 1922–23. Admitted 1906—7, 1907—8, 1908—9.

W. M. Calder. LL.D. — Christ Church, Oxford. Professor of Greek in the University of Edinburgh. Formerly Wilson Travelling Fellow, Aberdeen University. Research Student, Brasenose College, Oxford. Admitted 1907—8.

W. Harvey. — Gold Medallist and Travelling Student of the Royal Academy. Admitted 1907—8.

H. Pirie-Gordon. M.A., D.S.C. — Magdalen College, Oxford. Admitted 1907—8.

M. S. Thompson. M.A., O.B.E. — Corpus Christi College, Oxford. Holder of Chas. Oldham Scholarship. Craven Fellow. Admitted 1907—8, 1908—9, 1909—10, 1910—11, 1911—12. Hon. Secretary of the School, 1919—27.

A. C. Sheepshanks. B.A. — Trinity College, Cambridge. Assistant Master at Eton. Admitted 1907—8.

N. Whatley. M.A. — Late Fellow of Hertford College, Oxford. Headmaster of Clifton College. Admitted 1907—8.

†G. L. Cheesman. M.A.	Fellow and Lecturer of New College, Oxford. Admitted 1908—9.
A. W. Gomme. B.A.	Trinity College, Cambridge. Lecturer in Greek History and Archaeology, University of Glasgow. Previously Assistant Lecturer in Classics, Liverpool University. Prendergast Student. Admitted 1908—9, 1919—20, 1922—23.
L. B. Budden. M.A., A.R.I.B.A.	Professor in the School of Architecture of the University of Liverpool. Admitted 1909—10.
S. W. Grose. M.A.	Christ's College, Cambridge. Fellow and Tutor of Christ's College, Cambridge. From 1914, cataloguing McClean Collection of Greek Coins in the Fitzwilliam Museum. School Student. Admitted 1909—10.
H. A. Ormerod. M.A., M.C.	Queen's College, Oxford. Rathbone Professor of Ancient History in the University of Liverpool. Late Professor of Classics in the University of Leeds. Admitted 1909—10, 1910—11.
H. H. Jewell.	Royal Academy Gold Medallist. Admitted 1909—10.
W. R. Halliday. M.A., LL.D. (Glas.)	New College, Oxford. Principal of King's College, University of London. Late Rathbone Professor of Ancient History in the University of Liverpool. Craven Fellow. Admitted 1910—11. Re-admitted 1912—13.
Miss D. Lamb. M.B.E. (Lady Brooke).	Newnham College, Cambridge. Admitted 1910—11. Re-admitted 1913—14.
Miss L. E. Tennant (Mrs. F. J. Watson Taylor).	Admitted 1910—11.
E. S. G. Robinson. M.A.	Christ Church, Oxford. Assistant in the Coin and Medal Department, British Museum. School Student. Admitted 1910—11.
L. B. Tillard. B.A.	St. John's College, Cambridge. Admitted 1910—11.
A. J. Toynbee. B.A.	Sometime Fellow of Balliol College, Oxford. Late Koraes Professor of Byzantine and Modern Greek Language, Literature and History at King's College, University of London. Admitted 1911—12. Re-admitted 1920—21.
R. S. Darbishire. B.A.	Balliol College, Oxford. Admitted 1911—12.
Miss M. M. Hardie. M.A. (Mrs. F. W. Hasluck).	Newnham College, Cambridge. Admitted as School Student, 1911—12.
E. M. W. Tillyard. M.A., O.B.E.	Late Fellow of Jesus College, Cambridge. Admitted 1911—12.
M. L. W. Laistner. M.A.	Jesus College, Cambridge. Professor of Ancient History at Cornell University, Ithaca, N.Y. Late Reader in Ancient History in the University of London. Craven Student. Admitted 1912—13. Re-admitted 1913—14 as School Student.
S. Casson. M.A.	Lincoln College, Oxford, and Senior Scholar of St. John's College. Fellow of New College. University Lecturer in Classical Archaeology. Assistant Director of the School, 1919—1922. School Student. Admitted 1912—13. Re-admitted 1913—14.
R. S. Lambert.	Repton School. In charge of the Adult Education Section of The British Broadcasting Corporation.

† Killed in action, August 10th, 1915.

Gordon Leith.	Holder of Herbert Baker Studentship. Admitted 1912—13.
C. A. Scutt. M.A.	Clare College, Cambridge. Professor of Greek in the University of Melbourne, Victoria. Prendergast Student of the University of Cambridge. Admitted 1912—13. Re-admitted 1913—14.
†R. M. Heath. B.A.	Oriel College, Oxford. Craven Fellow. Admitted 1913—14.
J. Boxwell. B.A.	Scholar of Trinity College, Dublin. Travelling Scholar of Union of South Africa. Admitted 1913—14.
Miss M. N. L. Taylor (Mrs. H. C. Bradshaw).	Newnham College, Cambridge. Admitted 1913—14.
J. Arnott Hamilton. M.A.	University of Edinburgh. Holder of the Blackie Travelling Scholarship. Admitted 1913—14.
Miss E. Radford.	Admitted 1913—14.
Miss Agnes Conway. M.B.E.	Admitted 1913—14.
Rev. W. A. Wigram. D.D.	Admitted 1913—14. Chaplain to British Legation, Athens, 1923—26.
†C. B. Moss-Blundell. B.A.	New College, Oxford. School Student elect 1914—15.
H. Collingham. B.A.	Queens' College, Cambridge. Assistant Master at St. Olave's, Southwark. Craven Student. Admitted 1919—20.
M. Tierney. B.A.	University of Ireland. Professor of Ancient History, University College, Dublin. Admitted 1919—20.
A. W. Lawrence. B.A.	New College, Oxford. Laurence Reader in Classics in the University of Cambridge. Admitted with grant from the Craven Fund, 1919—20. Re-admitted 1921—22. Re-admitted as Craven Fellow, 1924—25.
*J. B. Hutton. M.A.	Lecturer in Greek History and Archaeology at University of Glasgow. Admitted with grant from the Carnegie Trustees, 1920—21.
F. L. Lucas. B.A.	Trinity College, Cambridge. Fellow and Lecturer of King's College. School Student. Admitted 1920—21.
B. Ashmole. M.A., M.C.	Hertford College, Oxford. Late Director of the British School at Rome. Yates Professor in the University of London. Craven Fellow. Admitted 1920—21, 1921—22.
H. T. Wade Gery. M.A.	New College, Oxford. Fellow and Tutor of Wadham College. Admitted 1920—21, 1921—22, 1922—23.
J. J. E. Hondius. Litt.Class.Doc.	University of Utrecht, Holland. Admitted as Foreign Student 1920—21.
C. A. Boethius. Dr.Phil.	University of Upsala, Sweden. Director of Swedish Arch. Inst., Rome. Admitted as Foreign Student 1920—21, 1921—22.
Miss L. Chandler. B.A.	University of Sheffield. Classical Mistress at the Hornsey High School. First Holder of Gustav Sachs Memorial Studentship. Admitted 1920—21.
Miss M. A. B. Herford. M.A. (Mrs. G. E. K. Braunholtz).	University of Manchester and Somerville College, Oxford. Formerly Lecturer in Classical Archaeology and Assistant Lecturer in Classics, University of Manchester. Admitted 1920—21.

† Killed in action, September 16th, 1916.
† Killed in action, September 26th, 1915. * Deceased.

Miss W. Lamb. M.A.	Newnham College, Cambridge. Hon. Keeper of the Greek and Roman Department, Fitzwilliam Museum. Admitted 1920—21. Re-admitted 1921—22, 1922—23, 1923—24, 1924—25, 1927—28, 1928—29, 1929—30, 1930—31.
M. A. Hondius-Van Haeften (Mrs. J. J. E. Hondius).	University of Utrecht, Holland. Admitted as Foreign Student, 1920—21.
W. A. Heurtley. B.A., O.B.E.	Caius College, Cambridge. Diploma of Archaeology, Oxford. Assistant Director and Librarian of the School. School Student. Admitted 1921—22, 1922—23.
R. W. Hutchinson. B.A.	St. John's College, Cambridge. Craven Student. Admitted 1921—22. Re-admitted 1930—31.
J. E. Scott. M.A.	Emmanuel College, Cambridge. Fellow and Lecturer of Caius College, Cambridge. Admitted 1921—22.
E. Smith. Ph.D.	University of Christiania, Norway. Lecturer in Classics. Admitted as Foreign Student, 1921—22.
*A. Smith (Mrs. E. Smith).	University of Christiania, Norway. Admitted as Foreign Student, 1921—22.
E. Kjellberg. Ph.D.	University of Lund, Sweden. Assistant in the National Museum, Stockholm. Admitted as Foreign Student, 1921—22.
J. Waldis. Dr.Phil.	University of Zurich, Switzerland. Professor at the Gymnasium, Lucerne. Admitted as Foreign Student, 1921—22.
G. Snijder. Ph.D.	University of Utrecht, Holland. Admitted as Foreign Student with Travelling Fellowship from his University, 1921—22.
J. Bell. M.A.	Fellow of Queen's College, Oxford. Admitted 1922—23.
*S. S. Clarke. B.A.	Balliol College, Oxford. Fellow of Exeter College. Craven Fellow. Admitted 1922—23, 1923—24.
B. L. Hallward. B.A.	King's College, Cambridge. Fellow of Peterhouse. University Lecturer in Classics. Admitted 1922—23 as School Student.
D. C. Macgregor. M.A.	Fellow of Balliol College, Oxford. Admitted 1922—23.
Miss J. Pybus (Mrs. A. M. Woodward).	Newnham College, Cambridge. Late Senior Classical Mistress, Newcastle Central High School. Admitted 1922—23.
A. G. Russell. B.A.	University of Liverpool. Classical Master at the Liverpool Institute. Admitted as Sachs Student, 1922—23.
C. T. Seltman. B.A.	Queens' College, Cambridge. Diploma of Archaeology, Cambridge. University Lecturer in Classics, Cambridge. Secretary of Cambridge Philological Society. Late George Charles Winter Warr Scholar. Prendergast Student. Admitted 1922—23.
O. J. Todd. Ph.D. (Harv.).	Associate Professor of Classics in the University of British Columbia. Admitted 1922—23.
Miss J. Webb. B.A.	University of Melbourne. Admitted 1922—23.
W. H. Alexander. M.A. (Tor.), Ph.D. (Calif.).	Professor of Classics in the University of Alberta, Canada. Admitted 1923—24. Re-admitted 1925—26.

* Deceased.

Miss C. Brönsted.	University of Copenhagen. Admitted as Foreign Student 1923—24.
W. B. C. Buchanan. B.A.	University of Edinburgh. Admitted as holder of Blackie Travelling Scholarship, 1923—24.
C. W. M. Cox. B.A.	Balliol College, Oxford. Fellow of New College, Oxford. Admitted as Craven Fellow, 1923—24.
W. L. Cuttle. B.A.	Emmanuel College, Cambridge. Fellow and Tutor of Downing College, Cambridge. Admitted as Craven Student, 1923—1924. Re-admitted 1924—25 as School Student. Re-admitted 1925—26.
C. Hignett. M.A.	Fellow of Hertford College, Oxford. Admitted 1923—24.
Miss M. B. Hobling. B.A.	Somerville College, Oxford. Classical Mistress at the Perse Girls' School, Cambridge. Admitted as School Student, 1923—24. Re-admitted 1924—25 as holder of the Mary Ewart Scholarship.
Miss U. D. Hunt. M.A.	Bedford College, London. Classical Mistress, Tiffin Girls' School, Kingston-on-Thames. Formerly Lecturer at Bedford College for Women. Admitted 1923—24.
H. H. Keen. B.A.	Balliol College, Oxford. Admitted 1923—24.
M. B. C. Tait. B.A.	Balliol College, Oxford. Admitted 1923—24.
Miss E. Tankard. B.A.	University of Liverpool. Assistant-Secretary to Institute of Archaeology, Liverpool. Keeper of the Department of Archaeology, Liverpool Museum. Admitted with grants from Holt Educational Trust and the School, 1923—24. Re-admitted 1924—25, 1925—26.
Miss A. Wentzel.	University of Copenhagen. Admitted as Foreign Student 1923—24.
R. P. Austin. B.A.	University College, Reading. Assistant Lecturer in Classics, University of Birmingham. Admitted 1924—25 with grants from University College, Reading and the Cornwall County Education Committee. Re-admitted as holder of a Postgraduate Travelling Studentship from University of London, 1925—26. Re-admitted 1927—28, 1930—31.
H. G. G. Payne. B.A.	Christ Church, Oxford. Director of the School. Admitted as holder of Travelling Scholarship in Mediterranean Archaeology, 1924—25, 1925—26. Re-admitted 1926—27. First holder of the Macmillan Studentship, 1928—29.
A. M. Farrer.	Balliol College, Oxford. Admitted as holder of the Clarke Memorial Exhibition, Easter, 1925.
J. H. Iliffe. B.A.	Emmanuel College, Cambridge. Director of the Museum, Jerusalem. Late lecturer at Toronto University. Admitted as Craven Student, 1924—25.
M. A. Sisson. A.R.I.B.A.	Admitted as Jarvis Student in Architecture at the British School at Rome, 1924—25. Re-admitted 1925—26.
B. I. Lawrence. B.A. (Mrs. A. W. Lawrence.)	Somerville College, Oxford. Admitted 1924—25.
Miss V. Whitfield. B.A. (Mrs. H. T. Wade-Gery.)	Somerville College, Oxford. Admitted as holder of a Gilchrist Scholarship, 1924—25. Re-admitted as holder of the Bryce Studentship, a Fellowship from Lady Margaret Hall, and a grant from the Ireland Fund, 1927—28.

H. Frankfort. Hist. Doct. (Leiden), M.A. (London).	Universities of Amsterdam and London. Field Director of the Iraq Expedition of the Oriental Institute of the University of Chicago. Admitted 1924—25.
H. A. Frankfort. Lit. n. Cand. (Mrs. H. Frankfort.)	University of Amsterdam. Admitted 1924—25.
P. Dikaios.	Admitted on Nomination of the Government of Cyprus, 1924—25.
H. Box. M.A.	St. John's College, Oxford. Lecturer in Classics at University College, Hull. Admitted as School Student, 1925—26.
G. A. D. Tait. B.A.	St. John's College, Cambridge. Assistant Master at Eton College. Admitted with a Scholarship from his College, 1925—26.
O. Davies. B.A.	Exeter College, Oxford. Lecturer in Archaeology and Ancient History, Queen's University, Belfast. Admitted as holder of the Clarke Memorial Exhibition, Easter, 1926. Readmitted as Craven Fellow, 1927—28, 1928—29, 1929—30.
Miss E. Scott.	Oxford Home Student. Admitted 1925—26.
Miss J. Toynbee. B.A.	Newnham College, Cambridge. Admitted as Student of the British School at Rome, 1926.
R. A. Cordingley. A.R.I.B.A.	Admitted as Student in Architecture of the British School at Rome, 1925—26.
Miss K. M. T. Chrimes. B.A.	St. Hugh's Hall, Oxford. Admitted as Gilchrist Student of the British School at Rome, 1925—26.
Miss N. M. Holley.	Newnham College, Cambridge. Admitted as Student of the British School at Rome, 1925—26.
C. G. Hardie.	Balliol College, Oxford. Admitted as holder of the Clarke Memorial Exhibition, Easter, 1927.
*J. T. Hawdon. B.A.	University of Birmingham. Admitted as Sachs Student, 1926—27.
*Miss A. Masom. B.A.	University of London. Admitted 1926—27.
P. J. Dixon. B.A.	Pembroke College, Cambridge. Admitted as Craven Student 1927—28.
A. L. McMullen. B.A.	St. John's College, Cambridge. Admitted 1927—28.
J. D. S. Pendlebury. B.A.	Pembroke College, Cambridge. Director of Excavations at Tell el-'Amarnah, Egyptian Exploration Society. Curator at Knossos. Admitted as School Student, 1927—28. Re-admitted 1928—29. Macmillan Student, 1929.
C. A. Ralegh Radford. B.A., F.S.A., F.R. Hist. S.	Exeter College, Oxford. Inspector of Ancient Monuments for Wales, H.M. Office of Works. Admitted 1927—28. Re-admitted 1928—29.
W. D. Woodhead M.A. (Oxon).	Professor of Greek, McGill University, Montreal. Admitted 1927—28.
Miss S. Benton. M.A.	Girton College, Cambridge. Admitted 1927—28. Readmitted 1930—31.
Miss M. Rodger. B.A.	Somerville College, Oxford. Admitted as School Student, 1927—28.

* Deceased.

Miss H. White (Mrs. J. D. S. Pendlebury).	Newnham College, Cambridge. Admitted 1927—28. Re-admitted 1928—29.
I. Gallie.	Exeter College, Oxford. Admitted as holder of the Clarke Memorial Studentship, 1928.
W. G. Hardy. M.A.	Associate Professor of Classics, University of Alberta. Admitted 1928.
Mrs. Hardy.	Admitted 1928.
Miss M. Hartley. B.A.	Girton College, Cambridge. Assistant Lecturer in Classics, University of Liverpool. Admitted 1928—29. Re-admitted with grants from School Committee, Cambridge Craven Fund and Girton College, 1929—30, 1930—31.
H. W. Jacobs. B.A.	Wadham College, Oxford. Admitted as a Student of the School at Rome, 1928. Re-admitted 1928—29.
Miss M. I. Turnbull.	Dunedin University, New Zealand. Admitted 1928.
J. E. Lloyd. B.A.	King's College, Cambridge. Admitted as School Student, 1928–29.
Prof. T. Le Roux.	University of Cape Town. Admitted 1928–29.
W. A. Laidlaw. M.A.	Trinity College, Dublin. Formerly Lecturer in the University of Western Australia. Lecturer in the University of St. Andrews. Admitted 1928–29.
Miss C. Barratt. M.A.	Somerville College, Oxford. Admitted 1928–29.
Miss A. E. Lindsell.	Newnham College, Cambridge. Warden of Bedford College House, London. Admitted 1928–29. Re-admitted 1930–31.
Miss A. Nance.	Slade School. Admitted 1928–29.
W. K. C. Guthrie. B.A.	Trinity College, Cambridge. Craven Student. Admitted 1928–29.
G. D. Hake. M.A., F.R.I.B.A.	Headmaster of the School of Architecture of the Royal West of England Academy, Bristol. Admitted as first holder of the R.I.B.A. Athens Bursary, 1929—30.
N. G. L. Hammond. B.A.	Gonville and Caius College, Cambridge. Fellow and Tutor of Clare College, Cambridge. Admitted as holder of the Sandys Studentship, 1929—30.
Miss M. L. Macdonnell. M.A.	Lecturer in Classics at Queen's University, Kingston, Canada. Admitted 1929—30.
C. M. Robertson.	Admitted 1929—30.
Miss O. M. Rowe.	Somerville College, Oxford. Admitted as School Student, 1929—30.
T. C. Skeat. B.A.	Christ's College, Cambridge. Assistant Keeper in the Department of MSS., British Museum. Admitted as holder of Sachs Studentship, 1929—30. Re-admitted as Walston Student, 1930—31.
C. R. Wason. B.A.	Gonville and Caius College, Cambridge. Lecturer at Toronto University. Admitted as first holder of Walston Scholarship, 1929—30.
Miss J. E. Matthews. M.A.	University of Toronto. Admitted 1930–31.
Miss M. E. Hirst. M.A.	Newnham College, Cambridge. Lecturer in Classics, Birmingham University. Admitted 1930–31.

Miss B. Wilkinson. B.A.	St. Hilda's College, Oxford. Admitted 1930–31.
R. D. Barnett. B.A.	Corpus Christi College, Cambridge. Admitted as School Student, 1930–31.
J. K. Brock. B.A.	Trinity College, Cambridge. Admitted 1930–31.
R. J. Heald Jenkins. B.A.	Emmanuel College, Cambridge. Prendergast Student. Admitted 1930–31.
T. Burton Brown.	Emmanuel College, Cambridge. Admitted 1930–31.
Capt. H. R. Walker.	King's College, Cambridge. Admitted 1930–31.

ASSOCIATES OF THE SCHOOL.

*Rev. A. H. Cruikshank.	Elected	1896.
Ambrose Poynter, Esq.	,,	1896.
J. E. Brooks, Esq.	,,	1896.
Miss Louisa Pesel.	,,	1902.
J. F. Crace, Esq.	,,	1902.
Miss Mona Wilson.	,,	1903.
J. S. Carter, Esq.	,,	1903.
B. Townsend, Esq.	,,	1903.
A. M. Daniel, Esq.	,,	1903.
H. W. Allen, Esq.	,,	1906.
W. Miller, Esq.	,,	1906.
George Kennedy, Esq.	,,	1906.
A. E. Zimmern, Esq.	,,	1910.
Miss Negreponte.	,,	1912.
C. J. Ellingham, Esq.	,,	1913.
Capt. H. M. Greaves, R.A.	,,	1913.
Shirley Atchley, Δ.Γρ.	,,	1920.
Miss C. A. Hutton	,,	1926.
Rev. W. A. Wigram	,,	1926.
Prof. H. J. W. Tillyard	,,	1929.
Miss G. R. Levy	,,	1930.
D. Dickson, Esq.	,,	1930.

RULES AND REGULATIONS

OF THE

BRITISH SCHOOL AT ATHENS.

OBJECTS OF THE SCHOOL.

I. The first aim of the School shall be to promote the study of Greek archaeology in all its departments. Among these shall be (i) the study of Greek art and architecture in their remains of every period; (ii) the study of inscriptions; (iii) the exploration of ancient sites; (iv) the tracing of ancient roads and routes of traffic.

II. Besides being a School of Archaeology, it shall be also, in the most comprehensive sense, a School of Classical Studies. Every period of the Greek language and literature, from the earliest age to the present day, shall be considered as coming within the province of the School.

III. The School shall also be a centre at which information can be obtained and books consulted by British travellers in Greece.

IV. For these purposes a Library shall be formed, and maintained, of archaeological and other suitable books, including maps, plans, and photographs.

THE SUBSCRIBERS.

V. The following shall be considered as Subscribers to the School :—

(1) Donors, other than Corporate Bodies, of £10 and upwards.
(2) Annual Subscribers of £1 and upwards during the period of their subscription.

VI. Subscribers of £2 annually or more, and Donors of £20 and upwards to the general funds of the School, shall receive a copy of the *Annual* free of charge.

Subscribers of £1 annually and Donors of £10 to the general funds shall be allowed to purchase the *Annual* at a reduced rate of £1. All Subscribers shall be entitled to receive a copy of the Annual Report and to use the Library and attend the public meetings of the School in Athens.

VII. A Corporate Body subscribing not less than £50 a year, for a term of years, shall, during that term, have the right to nominate a member of the Managing Committee.

VIII. A meeting of Subscribers shall be held in October of each year, at which each Subscriber shall have one vote. A subscribing Corporate Body may send a representative. At this meeting a report from the Managing Committee shall be presented, including a financial statement and selections from the reports of the Director and Students for the season. At this meeting shall also be annually elected or re-elected the Treasurer and the Secretary of the School, two Auditors, and four members of the Managing Committee, in place of those retiring under Rule XIII. (3).

IX. Special meetings of Subscribers may, if necessary, be summoned by the Managing Committee.

THE TRUSTEES.

X. The property of the School shall be vested in three Trustees, who shall be appointed for life, except as hereinafter provided. Vacancies in the number of Trustees shall be filled up at the annual meeting of the Subscribers.

XI. In the event of a Trustee becoming unfit or incapable of acting, he may be removed from his office by a majority of three-fourths of those present at a special meeting of Subscribers summoned by the Managing Committee for that purpose, and another Trustee shall by the same majority be appointed in his place.

XII. In the event of the death or resignation of a Trustee occurring between two annual meetings, the Managing Committee shall have the power of nominating another Trustee to act in his place until the next annual meeting.

THE MANAGING COMMITTEE.

XIII. The Managing Committee shall consist of the following :—

(1) The Trustees of the School.
(2) The Treasurer and Secretary of the School.
(3) Twelve Members elected by the Subscribers at the annual meetings. Of these, four shall retire in each year, at first by lot, afterwards by rotation. Members retiring are eligible for re-election.
(4) The members nominated by Corporate Bodies under Rule VII.

XIV. The Committee shall have control of all the affairs of the School, and shall decide any dispute that may arise between the Director and Students. They shall have power to deprive any Student of the use of the school premises.

XV. The Committee shall meet as a rule once in every two months; but the Secretary may, with the approval of the Chairman and Treasurer, summon a special meeting when necessary.

XVI. Due notice of every meeting shall be sent to each member of the Committee by a summons signed by the Secretary. Three members of the Committee shall be a quorum.

XVII. In case of an equality of votes, the Chairman shall have a second or casting vote.

XVIII. In the event of vacancies occurring among the officers or on the Committee between the annual elections, they may be provisionally filled up by the Committee until the next annual meeting.

HONORARY STUDENTS, HONORARY ASSOCIATES, STUDENTS, AND ASSOCIATES.

XIX. The Students shall consist of the following :—

(1) Holders of travelling fellowships, studentships, or scholarships at any University of the British Empire.
(2) Travelling Students sent out by the Royal Academy, the Royal Institute of British Architects, the Byzantine Research and Publication Fund, or other similar bodies.
(3) Other persons who shall satisfy the Managing Committee that they are duly qualified to be admitted to the privileges of the School.

XX. No person, other than a student of the British School at Rome, shall be admitted as a Student who does not intend to reside at least three months in Greek lands. In the case of Students of the British School at Rome, an aggregate residence of four months at the two Schools will be accepted as alternative to three months' residence in Greece.

XXI. Students attached to the School will be expected to pursue some definite course of study or research in a department of Hellenic studies, and to write in each season a report upon their work. Such reports shall be submitted to the Director, shall by him be forwarded to the Managing Committee, and may be published by the Committee if and as they think proper.

XXII. Intending Students are required to apply to the Secretary. They will be regarded as Students from the date of their admission by the Committee to the 31st day of October next following; but any Student admitted between July 1st and October 31st in any year shall continue to be regarded as a Student until October 31st of the following year.

XXIII. The Managing Committee may elect as Honorary Students or as Honorary Associates of the School such persons as they may from time to time deem worthy of that distinction. They may also elect as Associates of the School any persons actively engaged in study or exploration in Greek lands.

XXIV. Honorary Students, Honorary Associates, Students, and Associates shall have a right to use the Library of the School and to attend all lectures given in connexion with the School, free of charge.

XXV. Students shall be expected to reside in the Hostel provided for them, except with the sanction of the Managing Committee. Priority of claim to accommodation in the Hostel shall be determined by the Committee.

THE DIRECTOR.

XXVI. The Director shall be appointed by the Managing Committee, on terms which shall be agreed upon at the time, for a period of not more than three years. He shall be eligible for re-election.

XXVII. He shall have possession of the school-building as a dwelling-house.

XXVIII. It shall be his duty (1) to guide and assist the studies of Students and Associates of the School, affording them all the aid in his power, and also to see that reports are duly furnished by Students, in accordance with Rule XXI., and placed in the hands of the Secretary before the end of June; (2) to assist in editing the School *Annual*.

XXIX. Public Meetings of the School shall be held in Athens during the season, at which the Director and Students of the School shall read papers on some subject of study or research, and make reports on the work undertaken by the School.

XXX. He may at his discretion allow persons, not Students of the School, to use the Library and attend the public meetings and lectures of the School.

XXXI. He shall be resident at Athens from the beginning of November in each year to the end of the following June, but shall be at liberty to absent himself for short periods for purposes of exploration or research.

XXXII. At the end of each season he shall report to the Managing Committee—(i) on the studies pursued during the season by himself and by each Student; (ii) on the state of the School-premises and the repairs needed for them; (iii) on the state of the Library and the purchases of books, &c., which he may think desirable; and (iv) on any other matter affecting the interests of the School.

XXXIII. In case of misconduct the Director may be removed from his office by the Managing Committee by a majority of three-fourths of those present at a meeting specially summoned for the purpose. Of such meeting at least a fortnight's notice shall be given.

THE ASSISTANT DIRECTOR AND LIBRARIAN.

XXXIV. The Assistant Director shall be appointed by the Managing Committee, on terms which shall be agreed upon at the time, for a period of not more than three years. He shall be eligible for re-election.

XXXV. It shall be his duty to take charge of the Library and to be responsible for the Hostel, subject to the Director's approval and control, and otherwise help if required in the management of the School.

RULES FOR THE MACMILLAN HOSTEL.

XXXVI. The Director shall have power to exclude a Student from the Hostel in case of misconduct; but such exclusion must be immediately reported to the Managing Committee.

XXXVII. The Students shall pay an entrance fee of £2 2*s*. per session, and a fixed charge of 3*s*. a night or £1 a week for the small rooms in the Hostel. Two Students sharing a large room shall pay a reduced charge. These payments shall include fire, lighting, and the necessary servants' wages. Students shall also be required to pay the cost of their messing.

XXXVIII. Honorary Students, Honorary Associates, Associates, Members of the Committee, and ex-Directors may be admitted to residence in the Hostel. Other persons, if seriously engaged in study or research, may be admitted by the Director at his discretion. But no person shall reside in the Hostel under this rule to the exclusion of any Student desiring admission.

XXXIX. Residents other than Students or Associates shall pay an entrance fee of £2 2*s*. for any period up to three months, or £5 5*s*. per session, and a fixed charge of 6*s*. a night or £2 a week and the cost of messing. Associates shall be admitted to the Hostel at Student rates.

THE VILLA ARIADNE AT KNOSSOS.

XL. The Archaeological Curator at Knossos shall be appointed [1] by the Managing Committee for a period of not more than three years. He shall be eligible for re-election.

XLI. It shall be his duty (1) to reside generally at the Villa Ariadne from February 15th to August 15th; (2) to supervise the house and property generally and to see that the Palace and other excavated buildings are properly cared for.

XLII. He shall hold with regard to the Director of the School, the same position as the Assistant Director.

XLIII. Students residing at the Villa, and not engaged on an actual School excavation, shall pay the same charges as in the Hostel at Athens. With regard to the "Taverna," special arrangements will be made.

RULES FOR THE LIBRARY.

XLIV. The Director shall have power to make rules for the management of the Library, its use by Students, and the like; such rules to be subject to the approval of the Managing Committee.

PUBLICATION.

XLV. No publication whatever, respecting the work of the School, shall be made without the previous approval of the Committee.

THE FINANCES.

XLVI. All money received on behalf of the School beyond what is required for current expenses shall be invested in the names and at the discretion of the Trustees.

XLVII. The banking account of the School shall be placed in the names of the Treasurer and Secretary, who shall sign cheques jointly.

XLVIII. The first claim on the revenue of the School shall be the maintenance and repair of the School premises in Athens and the Villa Ariadne, and the payment of rates, taxes, and insurance.

XLIX. The second claim shall be the salaries of the Director and other officials of the School, as arranged between them and the Managing Committee.

Revised, 1928.

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[1] Subject to the approval of Sir Arthur Evans.

MANAGING COMMITTEE, 1928—1929.

EDWIN HANSON FRESHFIELD, ESQ.
GEORGE A. MACMILLAN, ESQ., D.Litt., *Chairman.*
V. W. YORKE, ESQ., M.A., *Hon. Treasurer.*
} *Trustees.*

PROFESSOR J. D. BEAZLEY, M.A. Appointed by the University of Oxford.
PROFESSOR D. S. ROBERTSON, M.A. Appointed by the University of Cambridge.
M. S. THOMPSON, ESQ., M.A. Appointed by the Hellenic Society.
MRS. CULLEY, M.A., *ex-officio* as joint editor of the *Annual*.

PROFESSOR R. M. DAWKINS, M.A.
PROFESSOR J. P. DROOP, M.A.
SIR ARTHUR EVANS, D.Litt., LL.D.
E. J. FORSDYKE, ESQ., M.A., F.S.A.
PROFESSOR E. A. GARDNER, Litt.D.
PRINCIPAL W. R. HALLIDAY, M.A., LL.D.
MISS C. A. HUTTON.
MISS W. LAMB.
PROFESSOR J. LINTON MYRES, M.A.
M. N. TOD, ESQ., O.B.E., M.A.
A. J. TOYNBEE, ESQ., B.A.
A. J. B. WACE, ESQ., M.A.
L. WHIBLEY, ESQ., M.A.
} Appointed by the Subscribers.

W. R. LE FANU, ESQ., B.A., *Secretary*, 50, Bedford Square, W.C. 1.

Hon. Treasurer, V. W. YORKE, ESQ., M.A., Farringdon Works, Shoe Lane, E.C. 4.

DIRECTOR:

A. M. WOODWARD, ESQ., M.A.

ASSISTANT DIRECTOR AND LIBRARIAN

W. A. HEURTLEY, ESQ., B.A., O.B.E.

ARCHAEOLOGICAL CURATOR AT KNOSSOS:

DUNCAN MACKENZIE, ESQ., M.A., PH.D.

ARCHITECT TO THE SCHOOL:

P. DE JONG, ESQ.

MANAGING COMMITTEE, 1929—1930.

EDWIN HANSON FRESHFIELD, ESQ.
GEORGE A. MACMILLAN, ESQ., D.Litt., *Chairman.*
V. W. YORKE, ESQ., M.A., *Hon. Treasurer.*
} *Trustees.*

PROFESSOR J. D. BEAZLEY, M.A. Appointed by the University of Oxford.
PROFESSOR D. S. ROBERTSON, M.A. Appointed by the University of Cambridge.
M. S. THOMPSON, ESQ., M.A. Appointed by the Hellenic Society.
H. M. FLETCHER, ESQ., F.R.I.B.A. Appointed by the Royal Institute of British Architects.
MRS. CULLEY, M.A., *ex-officio* as joint editor of the *Annual*.

PROFESSOR R. M. DAWKINS, M.A.
PROFESSOR J. P. DROOP, M.A.
SIR ARTHUR EVANS, D.Litt., LL.D.
E. J. FORSDYKE, ESQ., M.A., F.S.A.
PROFESSOR E. A. GARDNER, Litt.D.
PRINCIPAL W. R. HALLIDAY, M.A., LL.D.
MISS C. A. HUTTON.
MISS W. LAMB.
PROFESSOR J. LINTON MYRES, M.A.
M. N. TOD, ESQ., O.B.E., M.A., F.B.A.
A. J. TOYNBEE, ESQ., B.A.
A. J. B. WACE, ESQ., M.A.
L. WHIBLEY, ESQ., M.A.
} Appointed by the Subscribers.

B. S. PAGE, ESQ., M.A., *Secretary*, 50, Bedford Square, W.C. 1.

Hon. Treasurer, V. W. YORKE, ESQ., M.A., Farringdon Works, Shoe Lane, E.C. 4.

DIRECTOR:
H. G. G. PAYNE, ESQ., B.A.

ASSISTANT DIRECTOR AND LIBRARIAN:
W. A. HEURTLEY, ESQ., B.A., O.B.E.

ARCHAEOLOGICAL CURATOR AT KNOSSOS:
J. D. S. PENDLEBURY, ESQ., M.A.

ARCHITECT TO THE SCHOOL:
P. DE JONG, ESQ.

MANAGING COMMITTEE, 1930—1931.

EDWIN HANSON FRESHFIELD, ESQ.
GEORGE A. MACMILLAN, ESQ., D.Litt., *Chairman*.
V. W. YORKE, ESQ., M.A., *Hon. Treasurer*.
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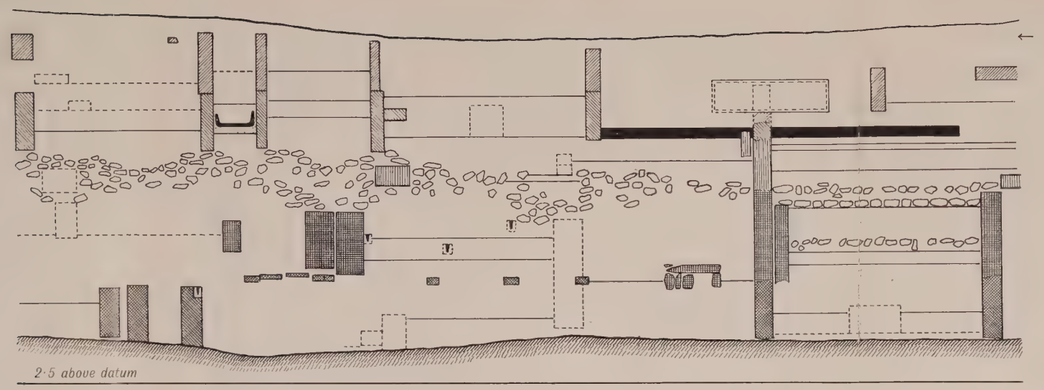
THERMI: PLAN OF THE SITE.

A—B



Scales for Section A-B

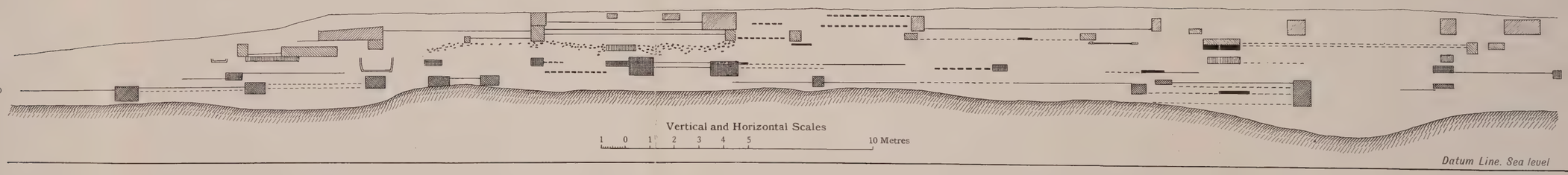
Vertical Scale
1 0 1 Metre

Horizontal Scale
1 0 1 2 3 4 5 Metres

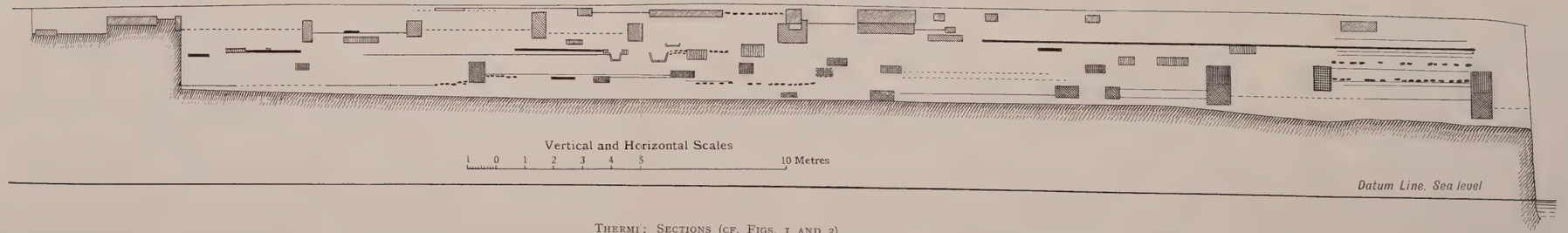
Modern Gun Emplacement
Door socket
Fallen stones on A-B
Gravel other than floors
Burnt strata
Fifth Town
Fourth Town
Third Town
Second Town
First Town
Regular paving
Fallen stones on C-D and E-F
Clay pits

Important Walls, not on line A-B
Actual floors
Floors not on lines of section, or inferred from hearths, thresholds, etc.
Hearths
Hearths, not on lines of section

C—D



E—F



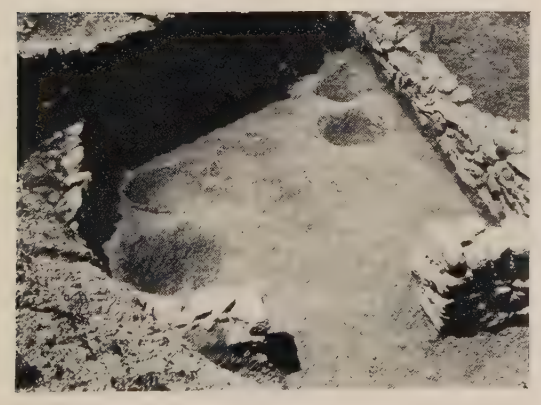
THERMI: SECTIONS (CF. FIGS. 1 AND 3).

1. Fifth and Fourth City Walls: Z.

2. View of Southern Area: Town V.

3. Ends of Semi-apsidal Houses.

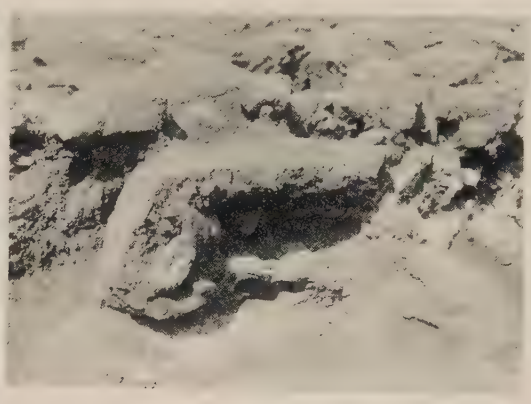
4. Fifth City Houses: H and Θ.



5. Store-room: First Town.

6. Hearths and Ash Dump.

1. Pithos-hearth (P. 17).



2. Oven (P. 16).

3. Large Blocks in Town I (P. 6).

4. Detail of Wall (P. 6).

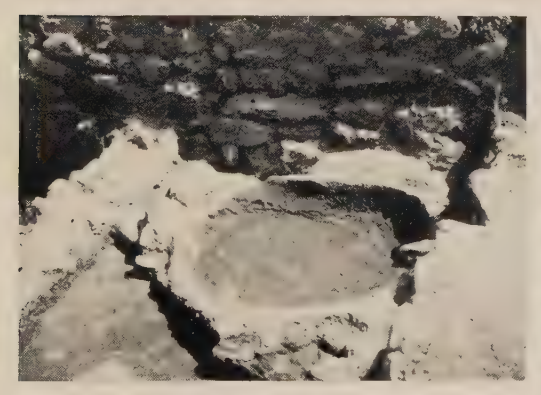
5. Remains of Oven (P. 16).

6. Pithos-hearth (P. 15).

Thermi.

1. Bothros containing Bowl and Deer-horn.

2. Pithos in I (P. 13).



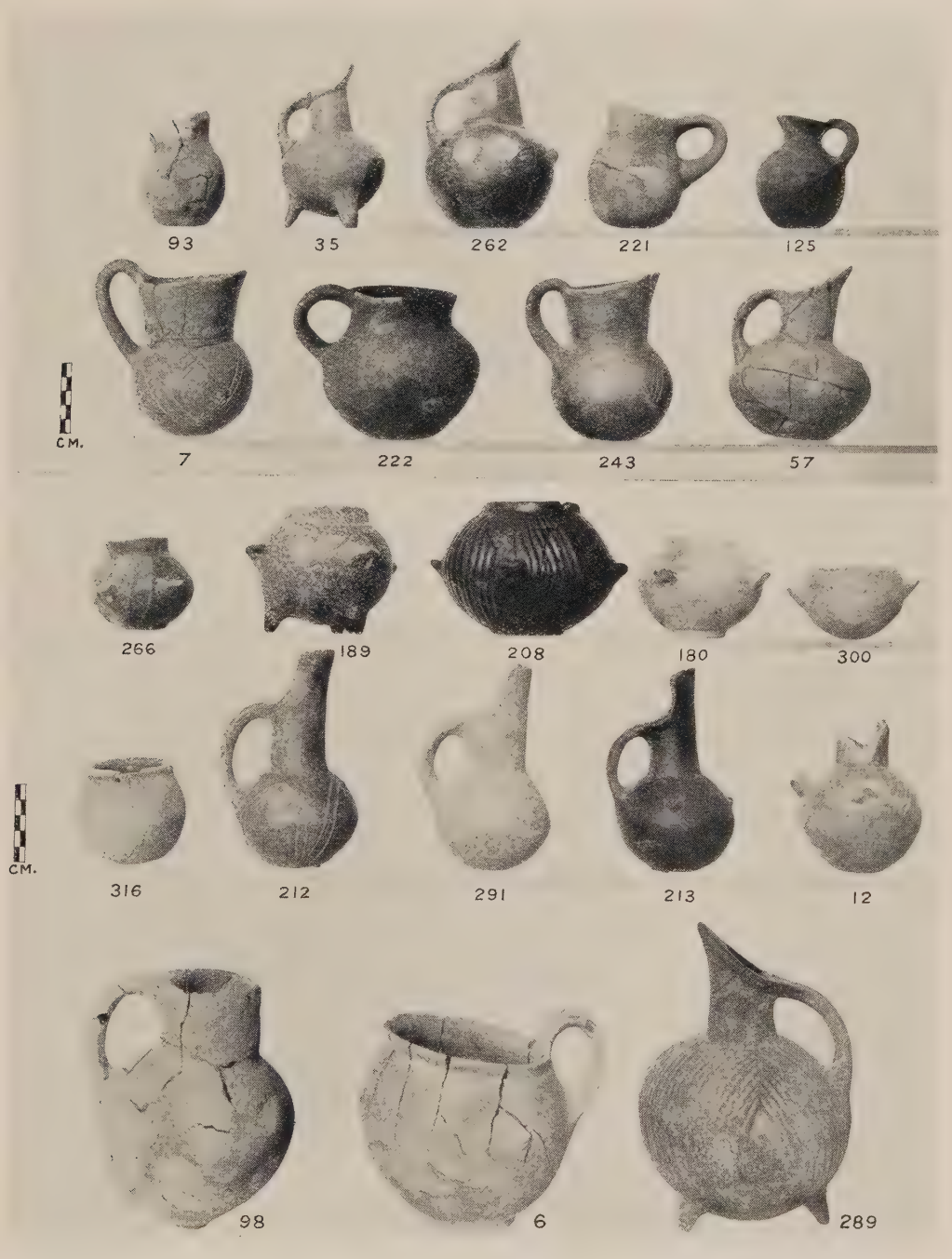
3. Base of Oven (?) (P. 15).

4. Cobbled Street: Second Town.

5. Platform (P. 8).

6. Schist Slabs in Wall.

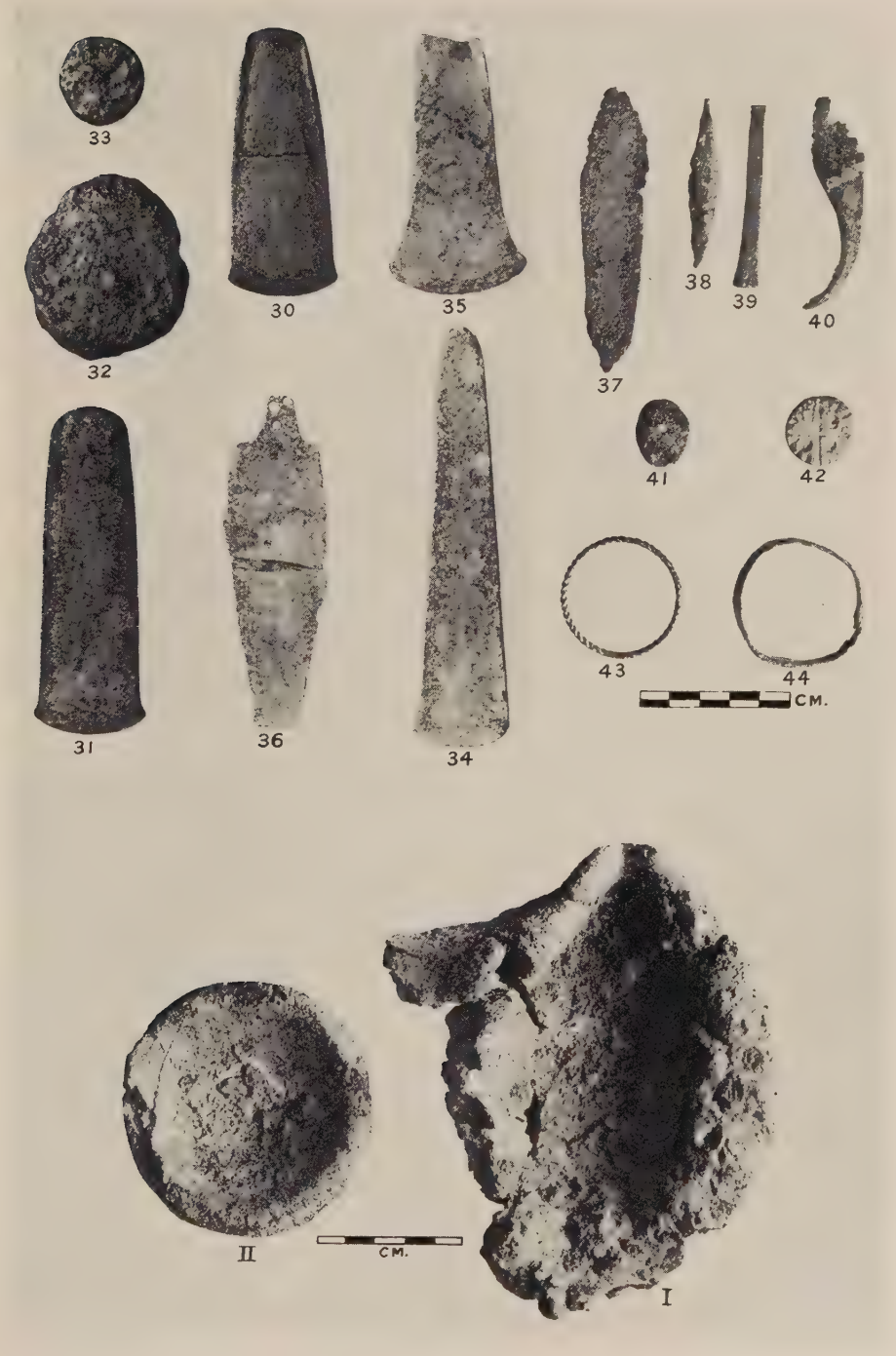
Thermi.



THERMI: VASES.

THERMI : VASES.

Thermi: Terracotta Figurines.

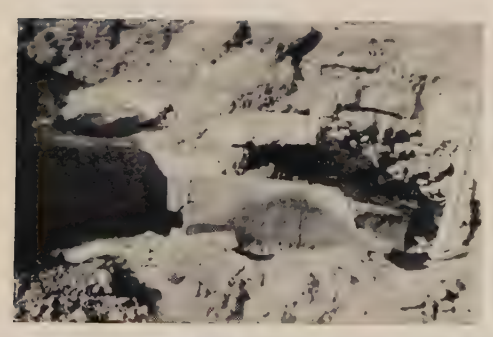


THERMI: METAL OBJECTS.

THERMI: STONE OBJECTS.

1

2



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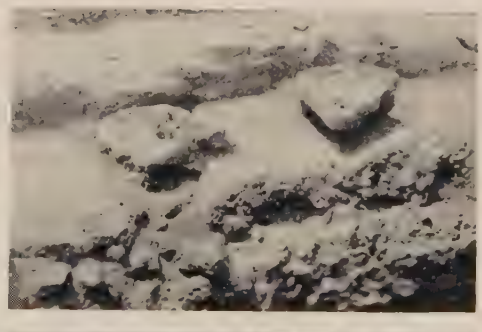
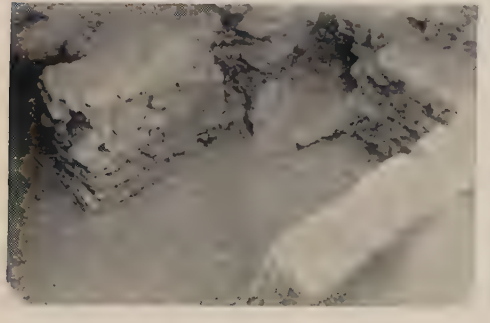




4 5

KNOSSOS: 1, RED-PLASTERED ROOM OF HOUSE BELOW KOULOURA 2.
2, TERRACOTTA DRAIN OUTSIDE KOULOURA 2.
3, PLASTER STANDS OUTSIDE KOULOURA 2.
4, MAGAZINES OF HOUSE BELOW KOULOURA 3.
5, GENERAL VIEW OF HOUSE BELOW KOULOURA 3.

a

b

KNOSSOS: *a*, POTTERY FROM THE HOUSE BELOW KOULOURA 3.
b, POTTERY FROM THE HOUSE BELOW KOULOURA 2.

KNOSSOS: M M Ia POLYCHROME JUG FROM THE HOUSE BELOW KOULOURA 3.
(Scale 1 : 1).

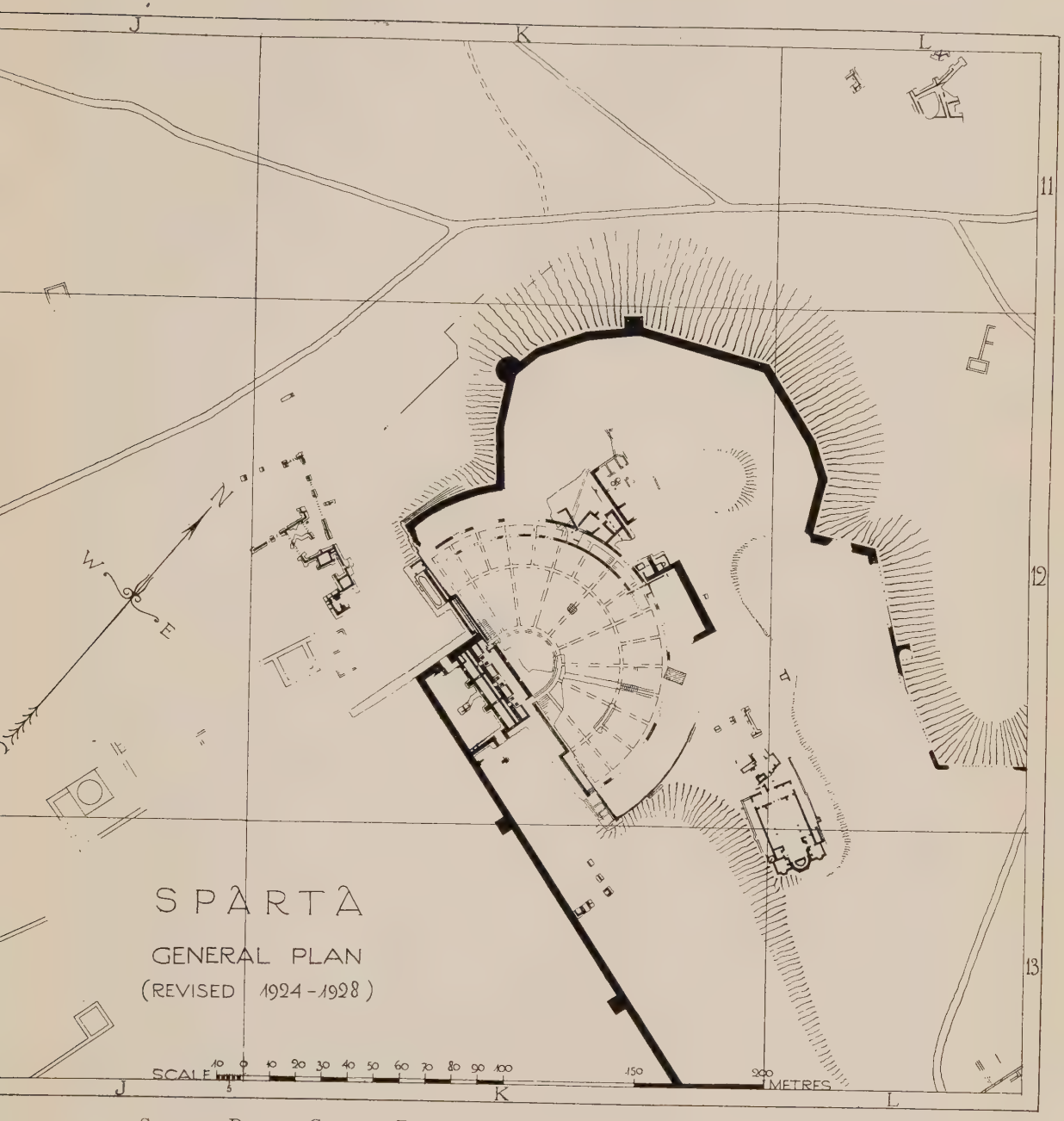
KNOSSOS: MINOAN IA POTTERY FROM THE KOULOURA HOUSES, 1930.
(Scale 1 : 2).

Morning Hymns of Leo, 2–5. Cod. Cantab. Trinitatis f. 296*b*–297.

Morning Hymns of Leo, 5–7. Cod. Cantab. Trinitatis f. 297b–298.

NOLAN AMPHORA IN THE COLLECTION OF THE DUKE OF BEDFORD.

Nolan Amphora in the Collection of the Duke of Bedford.



Sparta : Part of General Plan, Incorporating the Excavations of 1924–28.

Sparta: Byzantine Capital found at the Theatre.

(Scale *ca.* 1 : 5.)

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